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Factors Contributing to the Success of First-Generation College Students
at a Research University

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Education in Higher Education

by

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Abstract

First-generation college students are students whose parents do not have a college degree, and they face numerous barriers in college. Yet, several first-generation college students (FGCS) are successful and are on-track to graduate with a bachelor's degree in four years. Their success is important because education is associated with increased income, quality of life, and social mobility, making educational attainment even more significant in Arkansas, which has both low educational attainment and high poverty. Little is known about what can be done to close the achievement gap. It is important to analyze what helped FGCS succeed so that higher education administrators, faculty, and staff can help other FGCS succeed.

The study used explanatory sequential mixed methodology to analyze the factors first-generation college students identified as contributing toward being on-track to graduate in four years. Data for the study were collected at the University of Arkansas, an Arkansas land-grant institution. Descriptive statistics and Pearson's chi-square of independence test were used to analyze first-generation students. Focus groups of FGCS were conducted to understand the factors that contributed to being on-track and strategies for success. The study's results indicated that ethnicity and changing the major college of degree program are not related to being on-track to graduate, but other demographic factors like age, residency, and ACT score are significant. FGCS faced multiple barriers like unpreparedness, financial obligations, and relating to their family members, but they were motivated to succeed by many factors, primarily believing that a college degree was necessary for a better life. They used a few strategies to succeed, such as active involvement in planning their course of study to maximize efficiency. Recommendations for both future research and future practice were made to help first-generation college students succeed.

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Dedication

This project is dedicated to a set of successful first-generation students: my parents,
Dr. Anthony and Susan Hui. Your love and support enabled me to achieve my dreams.

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CHAPTER 1

INTRODUCTION

Context of the Problem

In the United States, higher education is the traditional gateway to a career and contributing to society. A college degree benefits graduates and their families in many ways, primarily through increased job opportunities; most jobs that offer a comfortable salary require at least a bachelor's degree. Bachelor's degree recipients earn an average of 66% more for full-time, year-round workers in lifetime earnings than those with only a high school diploma (Perna & Finney, 2014). The children of college graduates benefit from their parents' education because they often grow up with the expectation that they will also graduate from college. Furthermore, they receive advice on how to succeed in college and, with higher average incomes, their families are more prepared to handle the financial burden of college tuition. But what about those students whose parents did not go to college? How do they prepare for the uncharted territory of college without a family member to guide them?

Students whose parents do not have a college degree are commonly referred to as first-generation college students (FGCS), indicating their position as the first person in their family to earn a college degree. First-generation students comprise roughly 15-20% of students in American universities (Harackiewicz et al., 2014). These students face numerous barriers to their success, as one of the biggest predictors of college success is whether a student's parent attained a college degree. First-generation students lack the social capital, and often the economic capital, of their continuing-generation peers. And yet, several first-generation students succeed, breaking the lack of educational attainment cycle in their family. When first-generation students graduate from college, they have the potential to change the trajectory of their life and future generations,

exponentially increasing degree attainment. Since educational attainment and income levels are strongly related, reducing achievement gaps can also reduce income gaps. Therefore, it is important to understand what factors contribute to first-generation students' success so that educational attainment can be increased.

Statement of the Problem

Higher education administrators and staff are familiar with several factors that prohibit student success; it is easy to identify the many barriers first-generation students face. There is a greater number who fail than succeed and it is seemingly easier to question why those who did not make it failed, rather than examine those who succeeded. Without existing research on how first-generation students succeed, higher education administrators, faculty, and staff cannot duplicate this success. For a state with both low education attainment and high poverty, such as Arkansas, it is imperative to understand what can be done to close the achievement gap by examining first-generation students who graduate from a four-year institution. Therefore, the question "What helps first-generation students to succeed and how can we duplicate this success?" propelled this research.

Purpose of the Study

The purpose of the study was to examine first-generation students at a four-year research institution who were on-track to graduate in four years. Through both quantitative and qualitative analysis, the study explored factors contributing to first-generation student success and if they faced barriers, what they were and how they overcame them.

Research Questions

The study examined successful first-generation students at a four-year research institution. The research questions were:

1. What was the profile of first-generation students on-track to graduate in four years?
2. To what extent was there a relationship between the following factors and being on-track to graduate in first-generation students: ACT score, ethnicity, gender, the number of AP tests taken, age at enrollment, in-state residency, and initial college of enrollment?
3. What factors did first-generation students on-track to graduate in four years perceive as barriers to their success?
4. What factors did first-generation students on-track to graduate in four years perceive as impetuses to their success?
5. What did first-generation students on-track to graduate in four years identify as strategies for success?

Definition of Terms

Several terms need to be explained and defined in the study. They are:

1. First-generation college students (FGCS): Students whose parents did not have a bachelor's degree at the time of their application to the University.
2. On-track to graduate: Students who have successfully completed 105 or more credit hours by the beginning of the spring semester in their fourth year of enrollment.
3. Successful students: First-time, full-time students who are on-track to graduate within four years after beginning their college degree at the University of Arkansas.

Limitations and Delimitations of the Study

1. Although the traditional design and understanding of higher education are that a bachelor's degree should be completed in four years, several first-generation students might graduate within five or six years. The definition of success as graduation within four years from a research institution delimited the study.
2. The study examined first-generation students at the University of Arkansas, which is a four-year institution with a Carnegie classification of Doctoral University with the Highest Research Activity. Therefore, the study's results are not generalizable to other institution types (community/junior colleges, liberal arts colleges, for-profit institutions, or technical schools).
3. The study examined first-generation students on-track to graduate in four years from the University of Arkansas' J. William Fulbright College of Arts and Sciences. The findings may not be generalizable to other colleges within the University.
4. There are numerous variables beyond the scope of scientific research that might affect a first-generation student's success. Although the study sought to examine all available quantitative and qualitative factors that influence student success, the researcher may have disregarded many factors which would affect the study's results.
5. The majority of the quantitative data and the entirety of the qualitative data were self-reported by the study's sample. It is possible that respondents might withhold or knowingly disclose incorrect information. Therefore, the accuracy of self-reported data limited the study.

Assumptions

1. The data provided by the University of Arkansas Office of Institutional Research were reliable and accurate.
2. College choice (the decision to seek, apply, and enroll in higher education) reflects numerous factors such as the obvious assessment of cost-benefit analysis of school, but also of the individual's habitus (Perna, 2006). Cultural and social capital shape students' choices in college, especially in underrepresented groups like first-generation college students. These values are unique to each group and the study accepts the first-generation college student identity as a group with unique values and beliefs that shape their college experiences.
3. Students at a four-year institution believe there are increased opportunities for those who hold at least a bachelor's degree and the lack of a post-secondary education limits an individual's opportunity. The study assumes that college students enter with the belief that a bachelor's degree is a necessary component of their desired future.
4. There is a positive relationship between the student's parents' educational attainment and the student's success. Therefore, students whose parents have a higher level of educational attainment are more likely to be successful in college.
5. A positive relationship exists between a family's educational attainment and income level. If a family has a higher level of educational attainment, they have a higher level of income. With greater income, families can better support the cost of higher education, reducing the student's financial barriers.
6. The study benefits from a single-state case study of Arkansas and its flagship institution, the University of Arkansas. Arkansas' educational attainment levels, income, and access

to institutions create unique conditions for first-generation students. Studying this state alone, as opposed to a multi-state or national study, provides greater understanding of the issue of first-generation student success and how this can improve in Arkansas.

Assuming that these conditions are state-specific allows the researcher to include more contextual detail, emphasizing technique and research over the size and scope of the data collected (Nicholson-Crotty & Meier, 2002).

Current Literature Gaps

Although there is a growing body of literature on first-generation students, the existing research fails to include how first-generation students succeed. First-generation students encompass many other student identities (including low-income and racial minorities) that are more heavily researched. Although the overlapping identities are disaggregated in Chapter 2, it is important to note that students do not interact with these identities and barriers separately. Their identities compound and complicate what researchers know about their college experiences. Several studies focus on students who are both first-generation and low-income or first-generation and racial minorities (Aguiana & Gloria, 2015; Engle & Tinto, 2008; Lightweis, 2014; Pyne & Means, 2013; Trevino & DeFreitas, 2014; Wilkins, 2014). Few studies, however, deal with students solely classified as first-generation. When researchers disaggregate the identities, it suggests that students stop being low-income at one point and begin being a racial minority at another, which is not the case. A student who is both low-income and a racial minority experiences college fully as both of these identities. Therefore, it is important that researchers evaluate broad student identities so that institutions can adequately address their needs. While researchers have called for administrators and policy to recognize first-generation students as a particular group, there has been little change (Spiegler & Bednarek, 2013;

Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996); most institutions address the needs of other identities (e.g., low-income or racial minorities). Serving the needs of first-generation students will likely overlap with other identities, but it is important to analyze this identity alone. Research on first-generation students allows us to examine how these identities intersect so that we may capture more students and help them succeed.

The literature on first-generation college students (FGCS) falls into three broad categories: comparing the characteristics of first-generation students with continuing-generation students, the transition from high school to postsecondary education, and persistence in degree attainment (Pascarella, Pierson, Wolniak, & Terenzini, 2004). While the study primarily falls into the third category, focusing on persistence and degree attainment, it also encompasses the first two categories of how FGCS compare to their peers, as well as how they transitioned from high school to college. Approaching the issue of first-generation college student success through a combination of both enrollment data and qualitative exploration of their experiences addresses gaps in the literature that narrow our understanding of this student group.

Theoretical Framework

In higher education, student performance is often measured by GPA and completion of credit hours. Although these data points are often the only reflection of student performance in the classroom, they are easily affected by factors outside of the classroom. The study's framework utilizes student involvement theory which considers the effect of factors both in and out of the classroom on student success (Astin, 1984).

Student involvement theory directs educators to focus on what students do and how they spend their time to better understand student success. Students' actions are interpreted as a reflection of their motivation to devote time and energy to the learning process (Astin, 1984).

Through this lens, involvement is defined in a broad sense to encompass all aspects of student life, including where a student works as well as home life and residence location. When examining student actions as a window to understanding success, the most valuable institutional resource is time. Time is finite; therefore, time that a student devotes to one activity automatically detracts from time spent on another. For example, if a student spends most of a day at a part-time job that requires full attention, that is time that cannot be spent studying or working on a class project. Furthermore, involvement is viewed as a continuum, in which dropping out is the lowest level of involvement with increasing levels of involvement leading to persistence and graduation. Understanding how first-generation students on-track to graduate utilize their time will yield an understanding of their involvement and thus, their success.

Significance of Study

For states with low educational attainment, it is particularly important to examine how they can increase student success, like Arkansas where only 29% of Arkansans have an associate's degree or higher (Southern Regional Education Board, 2015). Arkansas' low educational attainment is correlated with its high rate of 29% of children in poverty, which is 7% above the national average (Southern Regional Education Board, 2015). Poverty in Arkansas is growing; it increased 4% in seven years (Southern Regional Education Board, 2015). Therefore, it is vital to understand how to increase educational attainment to also decrease poverty. The study examines first-generation students who are on-track to graduate within four years at Arkansas' flagship institution, the University of Arkansas.

The study's foundation is a previous dissertation that examined students who graduated in four years from a research institution, despite having a lower chance of succeeding based on entering characteristics (ACT score and high school GPA) (Korth, 2003). The study found that

the target population on average succeeded by “an expectation to graduate in four years, a motivation to graduate, a value for studying, a recognition of the importance of class attendance, a personal support system, campus involvement, a campus support system, and a wise use of campus resource,” (Korth, 2003, p. 1). The students overcame obstacles that include “crisis issues, joyous family occasions, financial problems, lack of awareness of resources, absentee administrators, problems with staff, difficulties with coursework, difficulties with advisors, problems with teachers, and dissatisfaction with university housing” (Korth, 2003, pp. 1-2). These students were able to graduate within four years by positioning themselves for success and finding creative ways to overcome their barriers. To improve retention, Korth (2003) recommended that the entire campus adopt a retention effort. The retention effort’s success depends on the entire campus’ commit to the effort.

Drawn by Korth’s (2003) exploration of successful students who overcame their struggles, I saw a similar need to explore first-generation students who graduate within four years. A bachelor’s degree is designed to be four years or less, but today’s students rarely graduate within four years; only 34.8% first-time, full-time college students complete a bachelor’s degree within four years at a public institution (U.S. Department of Education, 2016). Given the barriers FGCS face, it would be helpful to examine what factors contributed to their success, what barriers they faced, and how they overcame them.

Understanding how first-generation students succeed is essential to increase their retention and graduation rates, especially at the University of Arkansas, where a high number of the state population lacks a bachelor’s degree. Given degree attainment’s correlation with income, it is likely that closing the achievement gap will have the long-term effect of reducing poverty. The results of this research can help to inform administrators, faculty, and staff to make

better decisions when addressing how to improve student success. Furthermore, it is important to make data-driven decisions to increase student retention and graduation rates with the limited state and federal funds for higher education.

CHAPTER 2

LITERATURE REVIEW

Introduction

This chapter reviews the relevant literature on first-generation students at four-year higher education institutions and it includes five sections. First, it begins with a detailed account of the literature search process. Second, it includes a summary of the association of education and social mobility. Third, it details the relevant research and perspectives of student success. Fourth, it reviews the relevant research on first-generation students. The fifth section provides background information and context for the study's setting, the University of Arkansas. The chapter concludes with a summary.

Literature Review Search Process

I began the literature search with academic internet databases, primarily EBSCOhost ERIC, ProQuest ERIC, Google Scholar, and WorldCat through the University of Arkansas. The search ended in the spring of 2017. I searched each database with the descriptors “student success” and then “first-generation student” combined with one the following words: higher education, college, or university. In addition to these descriptors, I also used the subject thesaurus terms within the databases to identify specific terms and Boolean phrases that the database associated with the descriptor “first-generation student.” This yielded numerous peer-reviewed and periodical articles, research briefs, and independently published studies. After an extensive search on my own, I also met with the education subject librarian at the University of Arkansas library who affirmed my previous collection strategies. She taught me how to save a search and customize the query to notify me via email when new literature was added to the database that fit within the scope of research. While this technique had potential to be helpful,

there was seldom any literature of use added during the span of this research. In addition to database queries, I also searched within specific publications (e.g., *The Journal of Higher Education*) for material on first-generation students which yielded several studies.

I did not limit my search to articles; I also searched the University's library catalog for books related to first-generation students and information on helps students to succeed. I used the Library of Congress' catalog terms to locate similar books to those generated in the search. Satisfied that I had exhausted all possible search engines, I concluded my query.

Education and Social Mobility

Educational attainment is valuable because of its connection to income. As education attainment and income are related, first-generation students are likely to also be low-income students. Therefore, more than other student groups, they have the most to gain from educational attainment. Research shows that the average annual earnings of adults in the US are correlated with levels of educational attainment (Southern Regional Education Board, 2015). Moreover, the workforce requirements of the twenty-first century demand some level of postsecondary education. Projected rates show that within 10 years, 60% of all jobs will require a college education, translating into a need for 22 million college graduates (HCM Strategists, 2013). The 30 fastest growing occupations require some college, while the 30 occupations with the largest declines require no education past a high school diploma (Perna & Finney, 2014). Currently, the United States is millions short of attaining that goal (HCM Strategists, 2013). This highlights the need to increase access and opportunities in higher education as a necessary part of the United States' economic health. Improving educational access for all will alleviate the country's dependency on its non-poor population. Furthermore, increasing education and reducing poverty

will promote the United States as a global-competitor by creating an educated workforce and strong middle class.

In addition to improving individual income levels, higher education is necessary for upward mobility because it breaks the cycle of a lack of higher education (Engberg & Allen, 2011). First-generation college students are less likely to pursue and obtain a post-secondary degree than their peers whose parents attended some college/earned a degree (Tym, McMillion, Barone, & Webster, 2004). Only 47% of FGCS enroll in higher education institutions within a year of earning a high school diploma versus an enrollment of 85% of students whose parents obtained degrees (Engle, Bermeo, & O'Brien, 2006). First-generation college students are also more likely to attend community colleges than four-year institutions, further limiting their presence at four-year colleges/universities (Engle et al., 2006). The increasing cost of attending higher education institutions also restricts enrollment for students who are both first-generation and low-income (Terenzini, Cabrera, & Bernal, 2001).

Despite these grim prospects, there is hope. Many first-generation students pursue higher education with the intent to take control of their future and do more in their lives. First-generation students often arrive at college with strong convictions that their education will be directly related to their ability to do well in a future career. These convictions developed from their family's influence (Tate, Caperton, Kaiser, Pruitt, White, & Hall, 2015). The family itself feels elevated through the student's ability to access higher education and will, therefore, justifying sacrifices for the expected increase in social mobility (Dias & Sá, 2015). Many first-generation students remarked that their parents thought they would have a better life than them by attending college and choosing a major with a good career (Tate et al., 2015). Their desire to do better derives from watching their parents struggle financially with limited and unsatisfying

career prospects. They saw their families work hard, but remain unhappy. Therefore, they grew up with a strong understanding that school was a gateway to a better career and a better life.

Studies show that education is positively correlated with quality of life outcomes. Well-educated people reduced levels of emotional and physical distress compared to those who lack education (Ross & Van Willigen, 1997). In general, the more education a person has, the better outcomes they faced in life. Increased education demonstrated lower levels of depression, anxiety, malaise, physical aches and pains, and anger than poorly educated people (Ross & Van Willigen, 1997). Education was positively correlated with reduced physical distress more than reduced emotional distress. The study suggested that education-based inequalities in employment and income and their resulting effects for health and quality of life will continue to increase (Ross & Van Willigen, 1997). Educational attainment benefits are therefore shown to affect other important aspects of life besides income, like health and quality of life.

Research shows that college students are aware of the potential to increase their social standing in higher education settings. In addition to increased income, the college experience also yields valuable social capital. As students advance to higher education institutions, they become more aware of their social standing and where they desire to be and “engage in strategies of interpersonal relationships in order to construct a desired social identity and to achieve social transformation instead of social reproduction” (Kaufman, 2003, p. 498). Therefore, college is not only a means to access higher social standings, but a specific setting to increase social capital. The college experience and a college degree are both crucial aspects of social mobility.

Student Success in College

Traditional studies on college student success often focus on what happens when students are at college. However, students’ precollege experiences and background affect their college

success (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007). These factors include gender, race/ethnicity, socioeconomic status, family support, and academic preparation (Kuh et al., 2007). Gender has been a changing trend affecting college student success. In 1970, men received the majority of college degrees; but after 2001, more women than men began enrolling in college and earning degrees (Kuh et al., 2007). This trend occurred largely because women outperformed men on many of the determinants for college attendance (high school GPA, test scores, and preparatory coursework). Race and ethnicity are also associated with college success as there are large achievement gaps between Whites and racial minorities concerning academic achievement (Kuh et al., 2007). Additionally, socioeconomic status is a predeterminant of student success because a greater socioeconomic status increases the family's resources to fund a student's education (Kuh et al., 2007). Family support affects student success regarding parents' educational attainment. "Parental education is an important predisposition among all low SES students, but the strength of this relationship depends on students' race and gender rather than having the same effects for all" (Kuh et al., 2007, p. 29). The final predetermining factor affecting college student success is their academic preparation, their ability to support the academic rigor. Students who attend rigorous high schools (private or public) are more prepared to succeed academically in college, regardless of other demographic factors (Kuh et al., 2007).

In addition to existing research on students' background information and how it affects student success, there are numerous studies that examined student life while enrolled in college and the non-cognitive predictors of student success (Pritchard & Wilson, 2003; Tracey & Sedlacek, 1985; Sparkman, Maulding, & Roberts, 2012). This research valued the emotional, cultural, and social competence of students as opposed to academic ability. Such research suggested that the demographic most likely to graduate from college are White females, not

dating, live on campus their first semester, and have at least one parent with a bachelor's degree (Sparkman et al., 2012). The demographic profile of successful students is related to the variables of empathy, social responsibility, flexibility, and impulse control (Sparkman et al., 2012). Empathy was positively associated with student success and refers to students' ability to understand and value other's feelings. Social responsibility, the strongest emotional predictor with a positive association to success, referred to their role and cooperation with others as part of a group. Flexibility was negatively associated with success and referred to students' ability to adjust to changing situations (may indicate a willingness to transfer or change majors). Impulse control, the second highest emotional indicator positively associated with success, was the students' ability to resist rash actions (Sparkman et al., 2012).

Since 1998, the National Survey of Student Engagement (NSSE) collected information each year from hundreds of four-year institutions on first-year and senior students' participation, indicating how students spend their time and what they gained from college (NSSE, 2017). The survey's results inform institutions how students use their time in and out of the classroom. NSSE operates from a simple assumption that there is a positive association between engagement and success (Kuh, 2003).

The most engaged (and therefore, the most successful) students are full-time students who live on campus (Kuh, 2003). Other factors that are positively associated with college engagement are women, native students (those who start and graduate from the same institution), learning communities, international students, and students with diverse experiences (Kuh, 2003). The most recent NSSE findings are consistent and suggest that the most involved students engage in at least two High-Impact Practices (HIPs). HIPs include learning communities (groups of students take two or more classes together, service-learning/community-based project,

research with a faculty member, internship/field experience, study abroad, and a culminating senior experience (capstone course, senior project/thesis, comprehensive exam, or portfolio)) (NSSE, 2016a). The students most likely to engage in two or more HIPs are female, White, traditional-aged, not-first-generation, full-time enrollment, live on campus, and have declared a major (NSSE, 2016b).

The Documenting Effective Educational Practice (DEEP) project is another extensive research effort that examines student success (Kuh, Kinzie, Schuh, & Whitt, & Associates, 2010). Researchers examined 20 diverse colleges and universities with both strong student engagement and graduation rates to develop a comprehensive understanding of what promotes student success at an institutional level (Kuh et al., 2010). These practices include “tried and true” (p. 266) methods such as a coherent mission, shared vision, and excellent leaders (Kuh et al., 2010, pp. 266-275). DEEP schools also employed several “sleeper” techniques—policies and practices with little empirical data to support their findings. These exceptional methods include converting challenges into opportunities, electronic technology that compliments face-to-face student-faculty contact, and a sense of community that binds students to the institution and one another (Kuh et al., 2010, pp. 275-283). The “fresh ideas” from the DEEP project revealed innovative practices such as valuing and recognizing students’ preferred learning style and fusing the liberal and practical arts to enhance student learning (Kuh et al., 2010, pp. 284-287). DEEP findings are particularly beneficial for administrators as the findings speak to successes and barriers on an institutional level; however, they are difficult for individuals to apply on their own (e.g., a faculty member who wants to transform her classroom into an environment for student success). DEEP findings continue to support what we know about student success in a broad sense through a survey of a combination of varied institution types.

Understanding an institution's role acknowledges the importance of a student's culture and climate to promote student success. The following four conditions have been shown to have a positive effect on student retention: expectations, support, assessment and feedback, and involvement (Tinto, 2012). While expectations were derived mostly from students themselves (their belief that they should excel), institutions can create the remaining three. Institutional support gave students the means to meet (and even exceed) their expectations. With accurate assessment and frequent feedback, students were more likely to succeed in the classroom. Finally, through involvement, students were more likely to succeed through active academic and social engagement.

Perhaps it is best to consider student success through a combination of disciplines, including education, psychology, sociology, and economics. This broad, yet all-encompassing, perspective depicts student success as a product of numerous factors as well as an influential aspect of policy. Thus, student success and its factors are connected in a cycle. Building upon the conceptual model of the influence of habitus in college choice (Perna, 2006), the conceptual model of student success suggests that there are multiple layers that inform contribute to student success (Perna & Thomas, 2008). Student success is affected by primarily by their habitus (attitudes and behaviors), followed by the less influential, but still important, factors of family, institution, and social, economic, and policy context (see Perna & Thomas, 2008, p. 30). This extensive view of the student success allows researchers and higher education constituents to better understand the impact of additional factors so that we may increase dialogue, research, and cooperation between the layers to promote student success.

As the definition of college student success has become more associated with engagement, student affairs/student services grew to accommodate student programming.

Institutions expanded areas that catered to students' development outside of the classroom to promote success. As student services expand to now include service learning, leadership opportunities, organizations and counseling services, it is more and more difficult to determine where the lines for extracurricular involvement are drawn (Thelin & Gasman, 2016). Although the diversity of students in student affairs programs followed the diversity of student populations, it is unclear to what extent the average first-generation college student is involved in student affairs initiatives. The programs and resources required to run attractive student affairs programs in the twenty-first century to support student engagement have become controversial. Student affairs programs are expensive and it is unclear whether the programs truly encourage student success or if they are a distraction from academics and cultivate entitlement (Thelin & Gasman, 2016).

First-Generation College Students

First-generation students comprise roughly 15-20% of students in American universities (Harackiewicz et al., 2014). First-generation status reduces the odds of graduating in four and five years by 51% and 32% respectively (Ishitani, 2006). First-generation students differ from their continuing-generation peers by significant differences in both pre-college factors and college experiences (Terenzini et al., 1996). While educational attainment yields numerous benefits, the lack of it presents numerous barriers. First-generation students face barriers and identities that affect their success, primarily income, racial minorities, academic preparedness, struggling to fit in, and a lack of support. Below reviews the current literature on first-generation students and how these issues affect their success.

Income

Given that income and educational attainment are strongly correlated, first-generation students are more likely also to be low-income (Choy, 2001; Sirin, 2005). These students who are both low-income and first-generation students are at risk to perpetuate intergenerational cycles of school failure without additional support. Therefore, it is vital that first-generation students succeed to break generational cycles of educational attainment and income. The literature on first-generation students mirrors the intersection of these two identities; there are numerous studies on students who are both first-generation and low-income.

Economic standing explains many of the barriers FGCS face (Wilbur & Roscigno, 2016). Financial concerns affect first-generation in many ways. The most basic and obvious impact is the ability to afford college. First-generation students are more dependent on student loans to pay for tuition (Lee & Mueller, 2014). Students who are both low-income and FGCS often work throughout college to offset financial burdens. This requires additional time outside of the classroom that might detract from time that could be devoted to studying or engaging with their peers (Pratt, Harwood, Cavazos, & Ditzfeld, 2017). Despite the barriers low-income students face, first-generation students are at a disadvantage compared to their continuing-generation peers even when accounting for socio-economic standing (Wilbur & Roscigno, 2016).

Racial Minorities

Just as first-generation students are more likely to be low-income, they are also more likely to be racial minorities, with Latino students the most highly represented (Warburton, Bugarin, & Nuñez, 2001). The combined impact of the racial minority and first-generation identities heightens students' marginalization on campus, making many feel overlooked, disregarded, and unimportant (Pyne & Means, 2013). Latino first-generation college students are

more likely to be first-generation Americans, and their families are likely unfamiliar with the education system and process in the United States (Pyne & Means, 2013). The various identities of Latino first-generation college students reveal the complexity and intersection of issues with privilege, class, immigration, citizenship, and culture (Pyne & Means, 2013). Increased feelings of isolation and fitting in place greater importance of student involvement and faculty interaction to ensure success for first-generation college students who are also racial minorities. This might explain why Hispanic students are 64% more likely to depart than White students (Ishitani, 2006).

The research on the impact of being both a racial minority and first-generation on student success is conflicting. Despite studies that show increased barriers for racial minority FGCS, some studies have shown that students who are both racial minorities and first-generation have lower rates of attrition (D'Amico & Dika, 2013; Ishitani, 2003). This might indicate that while FGCS face increased barriers than their continuing generation peers, those who are minorities might receive more institutional support through racial/ethnicity directed retention efforts (D'Amico & Dika, 2013).

Academic Preparedness

First-generation students are often academically underprepared for college (Atherton, 2014). They do not perform as well before or during college as their continuing generation peers. First-generation students have lower standardized test scores than their peers (Ishitani, 2003). In a study of 2,358 students at 25 private institutions across 14 states, first-generation status was negatively related to college GPA (Elliott, 2014). This remained true even when examining how first-generation students compared to continuing generation students with the inclusion of the interaction term of self-efficacy. Although both student groups demonstrated increased GPAs

with increased self-efficacy, the increase was greater for first-generation students. “First generation students who experienced comparable increases in their academic self-efficacy perceptions of the course of their first year still earned lower grades than non-FG students” (Elliott, 2014, p. 38). Despite being academically underprepared for college, many FGCS fail to connect their lower GPAs and lower test scores before college as predictors of college success; they often seem surprised that the rigor of college academics exceeds their expectations (Atherton, 2014). This mismatch highlights the first-generation students’ lack of cultural and social capital.

Research has shown that rigorous academic coursework in high school not only improves college-going rates for students, but increases the likelihood of their success as they are better prepared to handle the academic workload (Camara, 2003). There are also benefits for college students who earn credit before attending. There is a positive impact on completion rates for first-generation students who take at least two AP tests and earn at least a 1030 SAT score (Camara, 2003). Rigorous coursework in high school helps to decrease the persistence gap at three years between first-generation and continuing-generation students in college (Camara, 2003).

First-generation students are likely to have lower educational aspirations than their continuing-generation peers (Pike & Kuh, 2005). They are almost 70% less likely to enroll in a four-year institution than continuing-generation students and even if they do enroll, they are almost 60% less likely to graduate (Wilbur & Roscigno, 2016). Even after graduation from a four-year institution, first-generation students are significantly less likely to pursue a graduate/professional degree, even when controlling for gender, income, race, and GPA (Carlton, 2015).

An aspect of academic preparedness unique to first-generation students is that they are more easily affected by how well their college expectations and experiences align with their reality (Elliott, 2014). As FGCS lack the same context and understanding of the reality of college life as their continuing-generation peers, they are more likely to be unprepared and dissatisfied with the reality of college life. This mismatch of expectations and reality leaves FGCS less prepared to overcome barriers as they face them, making it more difficult to persist and succeed academically (Kuh et al., 2007). The mismatch of first-generation students' perception and reality also affects their relationship with faculty members. First-generation students' perceptions in the classroom are often similar to faculty members' perceptions, making FGCS more likely to struggle with academics (Collier & Morgan, 2008). A lack of cultural capital causes FGCS to misunderstand their role as a student and therefore not meet faculty expectations (Collier & Morgan, 2008).

While in college, FGCS are more sensitive to the effects of class size. In larger classes, first-generation college students were found to be more negatively impacted than their continuing-generation peers (Beattie & Thiele, 2016). However, this did not prevent them from approaching their professors and teaching assistants about their career goals; even in large classes, first-generation students were more likely to discuss career aspirations with their professors (Beattie & Thiele, 2016). This shows that although FGCS might struggle to cope with the realities of college, they are determined to achieve their career goals.

As discussed previously, FGCS struggle to adapt to college because they lack the context for how to face common barriers. To better help all students face these barriers, many institutions implemented first-year seminars (Keup & Barefoot, 2005). These courses review college study skills, resources, and life skills (e.g., repaying student loans) and are particularly intriguing as

they address many barriers first-generation students face. First-year courses expand upon the concepts and resources often introduced during freshman orientation and have demonstrated improvement in first-to-second year retention (Keup & Barefoot, 2005). A study analyzing the effects of a first-year seminar on first-generation colleges students found significant differences for first-generation students' GPA, persistence, and their good academic standing (Vaughan, Parra, & Lalonde, 2014). The study also supported the argument that a first-year course is effective for students who are not as prepared for college as their peers (Vaughan et al., 2014). However, the study's first-year course focused specifically on intellection, personal, and professional development rather than campus engagement, which is what most first-year courses traditionally focus on. The material captured within the scope of this course is beneficial to all students but does not necessarily provide the specific support that first-generation college students require. Therefore, conclusions from the study cannot be compared to traditional first-year courses.

Persistence and Attrition

Additional factors influence first-generation students' academic persistence. They are more likely to choose institutions based on the nature and amount of financial aid and the perception of work outside the classroom, along with ability to work while going to school (Kuh et al., 2007). The cost of tuition determines the majority of their actions, particularly requiring them to work to afford school and recover the differences unmet by financial aid. Therefore, FGCS are less likely to graduate in five years, if at all (Kuh et al., 2007).

First-generation students are more likely to withdraw from college than their peers, particularly in their second year of college (Ishitani, 2006). In fact, first-generation students are 8.5 times more likely to drop out of college than their peers whose parents graduated from

college (Ishitani, 2006). Attrition rates were even greater when compounded with other factors like gender and race. Disaggregating the data reveals more interesting facts. Low-income students are 2.3 more likely to drop out in the first year, making it the most influential factor in first-year retention (Ishitani, 2006). Female students are more likely to depart their second year, but if they persist to their fourth year, they are more likely to stay (Ishitani, 2006). Further indicating that the second year proves to be trying, Hispanic students are 64% more likely to drop out that year than White students (Ishitani, 2006). While these factors negatively impact students, students who received financial aid were more likely to persist. Work-study students were 41% less likely to dropout, and those who received grants were 37% less likely to withdraw within their first year than students without financial aid (Ishitani, 2006).

However, there are things that institutions can implement that are shown to increase retention of FGCS. The number of advisor meetings was positively associated with first-generation college student retention (Swecker, Fifolt, & Searby, 2013). Academic advising plays a significant role in the experiences of FGCS. This relationship, and increased meetings with a staff member that encourage this relationship, help students to feel engaged and supported throughout college.

Fitting In

First-generation students often feel like they are alone. As the first in their family (and possibly in their community) to attend college, they can feel ostracized and unable to relate to their continuing-generation peers. The feelings of separation are further compounded after first-generation students attend college and return to their communities, often commenting that they feel changed by their college experiences and now more distant from their families and hometown communities (Jehangir, Stebleton, & Deenanath, 2015). Participants in Jehangir et

al.'s (2015) study struggled to combine their parents' pride by attending college with their newfound isolation and separation from their hometown communities. Their participants often realized that these feelings would grow, creating a larger gap between them as their degree attainment "pushed them upward in terms of social mobility but also away from their families, demonstrating again the conflict between the microsystems of the college and home worlds" (Jehangir et al., 2015, p. 22). First-generation students often have their family's support, but this can lead to monumental pressure and empty well-wishes. First-generation students often feel like the "chosen ones" of their family, the individuals who have a chance to succeed through a traumatic situation. This feeling is defined as "survivor's guilt" (Piorkowski, 1983; Tate, Williams, & Harden, 2010).

Struggling to fit in might lead FGCS students to be less engaged. One of the major differences between first-generation college students and their peers was that first-generation students were less engaged and integrated in diverse college experiences (Pike & Kuh, 2005). Not only were they less engaged, but they perceived college less favorably than continuing-generation students. As mentioned earlier, the need for many FGCS to work to offset the cost of their education means that they have less time to engage in campus activities (Pratt et al., 2017; Wilbur & Roscigno, 2016). Campus engagement activities like study abroad and extracurriculars increase the likelihood that students graduate as they contribute to feelings of connection to peers and the institution. Therefore, first-generation students' lack of engagement negatively affects their success.

First-generation students are less likely to participate in extracurricular and non-course-related activities; however, when they do participate, they are more likely to yield positive benefits from these interactions than continuing-generation peers (Pascarella et al., 2004).

Extracurricular involvement was positively correlated with critical thinking, degree plans, internal locus of attribution for academic success, and higher-order cognitive tasks for FGCS (Pascarella et al., 2004). Nonacademic involvement had either negative or less positive effects on FGCS than their peers as FGCS worked more hours per week during college; in other words, nonacademic activities were more likely to negatively affect first-generation college students than other students (Pascarella et al., 2004).

Lack of Support

First-generation students often did not have the same amount of support as their continuing-generation peers (Ishitani, 2003). A large part of today's higher education experience includes engagement in and out of the classroom. Research showed that first-generation students are engaged, but unlike their continuing generation peers, they rely on themselves for academic success; they do not see others' involvement as beneficial (Pike & Kuh, 2005; Yee, 2015). First-generation students expressed that the responsibility to succeed was theirs alone. For example, they do not expect professors to "hold their hands" and felt that doing well in college required self-discipline (Yee, 2015, p. 845). For FGCS, it is a point of pride to continue individual success and enjoy the fruits of their individual accomplishments. Their individualism is also connected to a sense that they do not have access to the benefits that their continuing-generation peers do, so they must be responsible and independent; there is nothing for them to fall back on (Tate et al., 2015). Therefore, this perspective restricted their ability to form possible relationships with their professors that their continuing-generation peers might establish and benefit from. Additionally, FGCS do not seek faculty support because they feel intimidated (Longwell-Grice & Longwell-Grice, 2007). Because first-generation students failed to establish these relationships, they missed opportunities for advice on how to improve their grades and perform well on upcoming

exams and assignments (Yee, 2015). This perspective led to subsequent isolationism, for within this thinking first-generation students reasoned that if they were doing well, they did not need to seek the professor because the professor's consultation was only necessary if help was required. Furthermore, they also might dig holes of academic difficulty too deep to escape but could have been prevented if they had contacted their professors earlier.

In the instances when first-generation students do seek help from their faculty members, they do not yield all the possible benefits as their interactions are either too brief or the students do not accurately articulate their needs as well as their continuing-generation peers (Yee, 2015). Although the student and faculty member are communicating, it is not successful. Additionally, some first-generation students are aware that interacting with their professors might help them with future letters of recommendation but they are unsure of how to develop a relationship, and therefore, tend to avoid the situation entirely (Yee, 2015).

Additionally, FGCS feel unsupported by their friends. For first-generation students, social support is important for success because it offers an outlet for understanding and reducing stress. First-generation students benefit more from the social support of friendships rather than the academic support that peers might offer (Jenkins, Belanger, Connally, Boals, & Durón, 2016).

Institution Description

As described in Chapter 1, only 29% of Arkansans have an associate's degree or higher, and correspondingly, the state is overwhelmingly poor (Southern Regional Education Board, 2015). Therefore, much of the state is uneducated and likely first-generation. The study focused on the University of Arkansas, the first land-grant institution in the state (the University of Arkansas at Pine Bluff is the state's second land-grant institution) and the state's flagship school

(University of Arkansas, 2017a). The institution is more selective, with a 60% acceptance rate (US News and World Report, 2016). Within the University, there are 10 colleges and schools and over 210 academic programs.

The cohort examined for the study (first-time, full-time degree seeking students admitted to the University in Fall 2012) is not unique. Table 1 summarizes the student populations in the Fall semesters 2010-2014. In the Fall semester 2012, there were 24,537 total students of which 20,350 were undergraduates (University of Arkansas Office of Institutional Research, 2012). By the Fall of 2016 (the fourth/senior academic year for the population of interest), total student enrollment had grown to 27,194 total students with 22,548 undergraduates (University of Arkansas Office of Institutional Research, 2016). However, the percentages do not change much over time, except for a growing non-resident (out of state) population (see Table 1). The cohort contains the study's target population: first-time, full-time, first-generation students on-track to graduate in four years (accumulated at least 105 credit hours by the Spring 2016 semester) who are currently enrolled in the J. William Fulbright College of Arts and Sciences, the largest and most diverse college within the University. Fulbright College of Arts and Sciences houses the University's liberal arts programs as well as the sciences. It includes major disciplines like philosophy, history, music, theatre, political science, and English in addition to mathematical sciences, chemistry, and biological sciences. The college also includes several master's and doctoral programs. See Table 2 for more information about the college.

Table 1

Enrollment Report Summary by Percentage of Total, Fall Semesters 2010-2014

	2010	2011	2012	2013	2014
Student Career					
Undergraduate	78.5%	82.0%	82.9%	82.9%	83.2%
Graduate	16.7	16.2	15.4	15.6	15.3
Law	1.8	1.8	1.7	1.5	1.4
Current Legal Residence					
Resident	67.9	65.1	62.8	60.4	58.4
Non-Resident	26.7	29.8	32.1	34.1	35.8
Foreign (International)	5.4	5.1	5.0	5.5	5.8
Gender					
Female	48.6	48.7	49.7	50.3	51.1
Male	51.4	51.3	50.3	49.7	48.9
Ethnicity/Race					
White Only	78.5	78.0	77.4	76.5	75.5
Racial Minority	13.4	13.9	14.4	14.6	15.2
Two or More Races	2.2	2.6	2.8	3.0	3.0
Foreign (International)	5.4	5.1	5.0	5.5	5.8
Not Available	0.5	0.4	0.4	0.4	0.5
College Enrollment					
Agricultural Food & Life Sciences	8.4	8.1	8.4	8.4	8.2
Architecture	2.7	2.4	2.1	1.8	1.8
Arts and Sciences	36.2	36.3	35.1	33.0	32.1
Education and Health Professions	19.1	18.8	19.4	20.5	20.1
Engineering	13.0	13.5	14.1	14.9	15.2
Business	17.3	17.6	17.8	19.1	19.9
Graduate School	0.9	0.8	0.8	0.8	1.0
School of Law	1.9	1.8	1.7	1.5	1.4
Continuing Education	0.6	0.7	0.6	0	0.3

Note: Racial minority includes Hispanic and any race, American Indian only, Asian only, Black only, and Hawaiian only.

Data summarized from University of Arkansas Office of Institutional Research (2017).
Enrollment Reports. Retrieved from <https://oir.uark.edu/students/enrollment-reports.php>

Table 2

Fulbright College of Arts and Sciences Undergraduate Enrollment

	2010	2011	2012	2013	2014
Total	6678	7357	7528	7243	7308
Current Legal Residence					
Resident	73.1%	70.4%	68.0%	66.8%	65.6%
Non-Resident	25.5	28.3	30.9	31.9	35.8
Foreign (International)	1.3	1.2	1.1	1.3	1.4
Gender					
Female	53.4	54.5	55.6	56.6	59.0
Male	46.6	45.5	44.4	43.4	41.0
Ethnicity/Race					
White Only	81.6	80.5	79.4	78.4	77.8
Racial Minority	14.0	14.8	15.8	16.3	16.6
Two or More Races	2.5	3.2	3.3	3.8	3.6
Foreign (International)	1.3	1.2	1.1	1.3	1.4
Not Available	0.6	0.3	0.4	0.2	0.4

Note. Data summarized from Office of Institutional Research (2017). Enrollment Reports. Retrieved from <https://oir.uark.edu/students/enrollment-reports.php>

As the study examined the experiences of first-generation students at the University of Arkansas, it is important to understand the existing support services and programs available to the student population. The University's Center for Learning and Student Success (CLASS+) offers a specific check list for first-generation students. CLASS+ coordinates campus-wide tutoring, supplemental instruction, and writing support for the University. The list provided for first-generation students includes suggested steps to take before applying, before classes begin, and the beginning of the first semester to promote success (University of Arkansas CLASS+, 2017). Before applying to the University, CLASS+ encouraged students to explore the College Access Initiative. The College Access Initiative (CAI) is offered through the University's Center for Multicultural and Diversity Education. CAI offers an ACT Academy that prepares prospective college students with ACT preparatory classes in five day workshops on campus

(Center for Multicultural and Diversity Education, 2017). The ACT Academy is open to all prospective college students (rising high school juniors and seniors) and specifically designed to support those from underrepresented groups (first-generation, racial minorities, and/or low-income).

Once students are admitted to the U of A and before classes begin in the Fall, they can attend a one- or two-day orientation session in May, June, or August. These sessions are designed to familiarize students and their families with the campus and various support services. The orientation sessions can be particularly helpful for first-generation students, especially if they bring their family members (University of Arkansas, 2017b). As family members may lack the same cultural context for college as their continuing-generation peers, this program can help students become acquainted with the college experience and explain to their families what the student will be experiencing throughout their college career. On the other hand, it is also possible that first-generation students and their families are unaware of the benefits that participating in orientation provides, causing them to miss out on a great opportunity.

Another opportunity available for students before classes begin is Razorback Outreach for Community and Knowledge (R.O.C.K.) Camp. This camp is “designed to aid incoming students in their transition from high school to college by developing a diverse social network of classmates, upperclassmen, and faculty & staff members, while strengthening their bond to the University of Arkansas through the introduction of campus culture and traditions” (R.O.C.K. Camp, 2017a, para. 1). The camp takes incoming freshmen on an overnight float trip to participate in engaging, community-building activities, and allows students an opportunity to make friends and meet other students before classes start. This could be an important aspect of making first-generation students feel less intimidated by the university-setting. However, the

camp's cost is unclear (R.O.C.K. Camp, 2017b). With a limited number of scholarships and undefined participation fees, FGCS might be discouraged from participating in R.O.C.K. Camp as they are also likely low-income.

The University does have one program specifically to support first-generation students: Student Support Services. Student Support Services (SSS) is part of the federally funded TRIO programs. Federal TRIO Programs identify and provide support for students from underrepresented/disadvantaged backgrounds (Office of Postsecondary Education, 2017). SSS is one of eight TRIO programs “targeted to serve and assist low-income individuals, first-generation college students, and individuals with disabilities to progress through the academic pipeline from middle school to postbaccalaureate programs” (Office of Postsecondary Education, 2017, para. 1). The University's SSS Office provides tutoring, study and computer facilities, grant aid fellowship, professional development programming, and counseling services for academic, career, and graduate school guidance (Student Support Services, 2017). Another TRIO program that encourages first-generation student success is Upward Bound which promotes college enrollment for first-generation students (Upward Bound Programs, 2017). Through Upward Bound, students receive academic and social support through regular visits to the campus on weekends and in the summer, encouraging college enrollment. Although Upward Bound is designed to support first-generation students, it does not help them once they get to college. Upward Bound focuses on helping FGCS prepare for college but it does not provide support for those currently in college. It might be considered a precursor to SSS.

Overall, there are a variety of existing support systems for first-generation students available at the University. However, it is unclear how much FGCS are aware of these programs. First-generation students often feel excluded and hesitant to engage on campuses already, so it is

likely that many are either unaware that these services exist and/or are too intimidated to participate in them.

Chapter Summary

The literature review served four purposes. First, it highlighted the importance of education to social mobility. Second, it discussed factors affecting student success. Examining student success in a broad sense helped to better understand how these factors affect first-generation student success. Third, it detailed the existing research on first-generation students. While first-generation students were found more likely to be low-income, racial minorities, and struggle to succeed in and out of the classroom, there was little research that offered insight on what helps first-generation students to succeed. Finally, the chapter provided an overview of the study's setting.

CHAPTER 3

METHODOLOGY

Introduction

The purpose of the study was to identify first-generation students who were on-track to graduate in four years from a research institution and analyze collected entrance data on the target population as well as the factors that they identified as helpful to their progress. This chapter includes four parts: first, the rationale given for selecting a mixed methodology design for the study, second, a description of the data collection and analysis, third, the role of the researcher, and fourth, a chapter summary.

Selection of the Research Design

Mixed methods procedures combine both quantitative and qualitative methodologies to provide a stronger understanding of the research questions than what either method could provide by itself (Creswell, 2012). There are six types of mixed methods procedures: convergent parallel, explanatory sequential, exploratory sequential, embedded, transformative, and multiphase (Creswell, 2012). The choice of design depends on the following four factors: what weight the researcher gives to quantitative and qualitative data collection, the sequence of data collection, how the data are analyzed (separately or combined), and where the data are “mixed” in the study (Creswell, 2012). With the consideration of these factors, the most appropriate design for the study was an explanatory sequential mixed method.

An explanatory sequential design requires two phases, beginning with quantitative data collection and analysis and concluding with qualitative collection and analysis. The quantitative data served two purposes. First, it provided data to describe the population and an analysis of results, and these results helped to plan the second phase (Creswell, 2014). For this project

specifically, the quantitative data identified the target population purposefully selected for the qualitative data collection. The second phase of the explanatory sequential design is qualitative data collection and analysis. The qualitative data provided further detail and explanation to the quantitative results that the quantitative data alone cannot identify (Creswell, 2014).

Data Collection

The data were collected in two major stages: quantitative data collection and qualitative data collection. As the study was an explanatory sequential design, the quantitative data collection preceded the qualitative data collection. Before the data were collected, I submitted a proposal to the University of Arkansas' Institutional Review Board (IRB). The approval process is designed to ensure that research is conducted in ethically and that the participants' confidentiality is protected (University of Arkansas Office of Research Compliance, 2017). The protocol form submitted to the University of Arkansas Institutional Review Board detailed how I planned to identify the cohort and target population and how their identities (including the participants from the qualitative phase of the study) would be kept confidential. The cohort included all first-time, full-time degree seeking students admitted to the University of Arkansas in the Fall 2012 semester. The target population included all members of the cohort who were also first-generation students on-track to graduate within four years (accumulated 105 credit hours or more by the spring 2016 semester) and whose current degree program was in the J. William Fulbright College of Arts and Sciences. In addition to identifying the cohort and target population, the IRB protocol application included how I would identify and contact potential participants for the focus groups. I submitted all required documents and forms to the board and upon review, the board found the protocol to be within their guidelines for research with human subjects (see Appendix A).

Data Analysis

Research Question 1: What was the profile of first-generation students on-track to graduate in four years?

The data required to answer this question were primarily demographic information that the University obtained from incoming students during the application and enrollment process. The demographic information included the following: number of hours completed; ACT, SAT, and/or COMPASS score; high school; hometown; ethnicity; gender; initial major (at the time of application); current major; initial college enrollment (college declared in the initial degree plan at the time of application); current college enrollment; date of birth; parental bachelor's degree attainment; and number of AP tests taken at the time of high school graduation. Once the Office of Institutional Research verified that I received IRB approval for the study, they released the requested data for students included in the cohort.

The demographic information was analyzed using both Excel and the statistical analysis software called R² to provide descriptive statistics on the target population and the cohort. These results answered the respective question by providing a description of the average first-generation college student on-track to graduate in four years.

Research Question 2: To what extent was there a relationship between the following factors and being on-track to graduate in first-generation students: ACT score, ethnicity, gender, the number of AP tests taken, age at enrollment, in-state residency, and initial college of enrollment?

The data required to answer this question were also collected in the demographic information that I requested from OIR. Each variable was tested for significance to first-generation status using Pearson's chi-square test of independence. Pearson's chi-square test of

independence (also referred to as chi-square test of association) uses statistical analysis to determine whether two factors are correlated (Glass & Hopkins, 1996). In the study, the test determined if various demographic factors were statistically significant to being on-track to graduate in four years. The tests are statistically significant if the p value of the observed statistic is less than the predetermined alpha level (Creswell, 2012). The p value is the probability that the test's results could be reproduced by chance, given that the null hypothesis was true. I predetermined the alpha level for this test to be $\alpha=0.05$, which meant that there was a 5% probability for a Type I error. A Type I error occurs when the researcher rejected the null hypothesis based on the test's results when the results were in fact true (Creswell, 2012). The statistical analysis software called R² analyzed the data. The tests' results provided the answers to Research Question 2.

Research Question 3: What factors did first-generation students on-track to graduate in four years perceive as barriers to their success?

This question began the second phase of the explanatory sequential design: qualitative research. Focus groups were used to gather data to answer the question. I chose this method for qualitative collection for this project because the collective nature of a group interview suits people who “cannot articulate their thoughts easily and provide collective power to marginalized people” (Liamputtong, 2011, p. 2), like first-generation students. Focus groups are beneficial when “exploring and examining what people think, how they think, and why they think the way they do about the issues of importance to them without pressuring them into making decisions or reaching a consensus” (Liamputtong, 2011, p. 5). This style of group interviewing provided a safe place for participants to share their ideas while allowing the researcher to utilize multiple communication techniques. Furthermore, focus groups offer researchers insight into a variety of

viewpoints on a particular issue and how these people interact and discuss the issue (Liamputtong, 2011). They provide “rich and detailed information about feelings, thoughts, understandings, perceptions and impressions of people in their own words” (Liamputtong, 2011, p. 6). Given that the target population might be hesitant or find it difficult to describe their experiences in individual interviews, focus group interviews were the best method of qualitative data collection for the study.

With the acquisition of the information provided by OIR, I could proceed to the next step of inviting the target population to participate in the focus groups. In addition to demographic information, I also requested contact information (name, email address, local address, and local telephone number) so that I could invite members of the target population to participate in focus groups to answer the question (see Appendix B).

The Focus Group Protocol detailed how I would conduct each focus group (see Appendix C), and provided a script to inform the participants about how I would conduct the interview, their rights as participants in the study, and the established ground rules for the interview. In conducting focus groups, written plans help to ensure that the interviewer and the participants agree (Krueger & Casey, 2009). The questions were listed as a guide (see Appendix C). Guided questions provide an anchor for the researcher, while also allowing the researcher to provide follow-up questions when appropriate throughout the interview. The Focus Group Protocol and guided questions were included in the documentation for IRB approval.

All focus groups were conducted in the same manner in a private conference room on the University of Arkansas campus. As compensation for their participation, I provided all group participants with pizza (sponsored by the University’s Office of Graduation and Retention), cookies, and soft drinks. As each student entered, I welcomed them and invited them to eat as

they filled out the consent form (see Appendix D). Upon collecting the completed consent forms, I initiated small talk with the participants to make everyone feel comfortable with one another and asked students to introduce themselves to the other participants. I explained the conduct of the interview, the ground rules for the session, and began the interview.

For consistency, I conducted all focus groups and did not use a moderator. I took minimal notes during each focus group, relying on both an audio recorder and video camera for capturing the groups' dialogue for future transcription purposes. Recording the interviews also allowed me to focus on the participants' responses and consider follow-up questions to encourage richer responses without being distracted by taking notes. Following each focus group, I made notes in a notebook and discussed these with my faculty advisor. Of the 217 students, 17 participated in the focus groups, and one participated via video/phone interview.

The final step of the qualitative research phase was to transcribe and code the data. After the data were transcribed and coded for themes. When conducting and analyzing qualitative research, it is important to check for qualitative validity. Qualitative validity “means that the researcher checks for the accuracy of the findings by employing certain procedures” (Creswell, 2014, p. 201). To increase qualitative validity, I used the strategy identified as triangulation (Creswell, 2014). In triangulation, the researcher uses multiple data sources to

build a coherent justification for themes. If themes are established based on converging several sources of data or perspectives from participants, then this process can be claimed as adding to the validity of the study (Creswell, 2014, p. 201).

I triangulated data by reviewing the completed transcripts with the audio and video recordings at their original speeds to provide understanding and depth to the transcripts like inflection and nonverbal cues from the participants. As Creswell (2014) suggested, listening to the data

multiple times while following along and correcting the transcript increased reliability by checking for errors with each pass.

Coding is the process of organizing the qualitative data into categories and labeling them with an appropriate term (Creswell, 2014). I coded my research by placing the transcribed interviews into a two-column table, with the codes (identified themes) in the left column and the transcript in the right. Each participant's response/comments were separated by individual rows. To further increase reliability which is consistent, stable procedures throughout the data (Creswell, 2014), the codes were placed in a codebook sorted according to the research questions (three, four, or five). After sorting them, I looked for overlapping themes and any redundancy in the process and then revised the coded transcripts for consistency. The coded focus group transcripts provided data to answer the respective question.

Research Question 4: What factors did first-generation students on-track to graduate in four years perceive as impetuses to their success?

This question also utilized data obtained and analyzed from the focus groups in Research Question 3. The participants' explanation of their experiences demonstrated what they perceived as beneficial to their success.

Research Question 5: What did first-generation students on-track to graduate in four years identify as strategies for success?

This question served as the overarching question for the study. The data collected and analyzed in the focus groups answered this question.

Role of the Researcher

It is important for researchers to acknowledge any possible bias that might influence study results. One major possible bias of mine was that I am not a first-generation college

student. I did not face the same barriers in my college experience that affect first-generation college students. However, although I am not a first-generation student, both of my parents were. It is possible that I was drawn to study this population because my parents often shared with me how important it was for me to understand how their success allowed me a “typical” college experience. Because of my parents’ success as first-generation students, I grew up with the narrative that attending college was an expectation. Aware of this possible bias, I felt that it was important not to see the experience of these students as a story of redemption, but to acknowledge the opportunities and circumstances that made it possible for these students to thrive. In other words, as the researcher, I sought to answer how they succeeded rather than to understand why so that I would not misinterpret the data.

Like the study’s participants, I attended the University of Arkansas and graduated from Fulbright College of Arts and Sciences. I graduated in 2009 with a Bachelor of Arts with a double major in drama and history. In 2011, I earned a Master of Arts in History, which is also housed within the College of Arts and Sciences. As a graduate of the same college, I had context to understand many of the institution-specific experiences that the study’s participants described, despite not being able to relate as a first-generation student.

I was drawn to study this subject because I was inspired by successful first-generation students that I met throughout my studies at the U of A. I hope that this research will be used to support first-generation college student success, informing future practice. I am also a college instructor and have worked closely with members of this target population as many of my students are first-generation. My relationship with my students and their success further fueled my desire to research their experiences.

Chapter Summary

This chapter detailed the research project's methodology, beginning with the rationale for selecting an explanatory sequential design. It then detailed the methods for data collection and analysis. The first research question focused on the profile of first-generation students on-track to graduate in four years. Demographic information addressed this question. The second question focused on the relationship between common factors collected for incoming students and being on-track to graduate or not with first-generation students. This question was addressed through the statistical analysis of these factors using Pearson's chi-square test of independence. The third, fourth, and fifth research questions were addressed using data collected from focus groups conducted with members of the target population. The third question addressed the perceived barriers that first-generation students on-track to graduate in four years, while the fourth question addressed perceived impetuses to their success. The fifth and final research question explored what strategies for success first-generation students identified. The goal of the research questions and the study's design was to understand what helps first-generation students progress towards graduation at a four-year research institution. The following chapter presents the study's findings.

CHAPTER 4

FINDINGS

Introduction

The study was designed to examine what helps first-generation students succeed in four-year institutions. Through five research questions, the study explored aspects of first-generation students. The research questions (and the study) can be divided into two broad groups: enrollment data/demographic information and their experiences in college. The first two questions analyzed enrollment data/demographic information. Research Question 1 addressed the profile of first-generation students on-track to graduate in four years, and was answered through the collection and analysis of demographic information collected from initial enrollment. Research Question 2 examined the relationship between the collected demographic information and the status of being on-track to graduate in first-generation. Demographic information was also used to address this question and was analyzed using Pearson's chi-square test of independence. The last three research questions analyzed successful first-generation students' experiences in college. These questions required qualitative data; they could not be sufficiently answered through demographic or quantitative data. The qualitative data were collected through focus groups with members of the target population. Their responses were transcribed, analyzed, and coded to address research questions three, four, and five. Research Question 3 involved understanding the perceived barriers first-generation students on-track to graduate in four-years faced, while Research Question 4, in contrast, asked what they perceived as impetuses to their success. The final question, Research Question 5, examined the strategies for success first-generation students on-track to graduate identified.

This chapter details the study's findings, and includes three sections. It begins with the summary of the study. This section details the study's purpose, relevant literature on the subject, information on the study's research site as a case study, and how I collected the data. The second section addresses the study's results. The final section concludes the chapter with a summary.

Summary of the Study

The purpose for conducting the study was to examine what contributes to first-generation students' success at a four-year institution. Success was defined as being on-track to graduate within four years. The study used both quantitative and qualitative data to explore first-generation students and their experiences. It is important to study what contributes to FGCS success because educational attainment is positively correlated with income (Perna & Finney, 2014). First-generation students are the first in their family to break through ceilings of both their family's educational attainment and their income levels. Therefore, improving first-generation students' success at its most broad level increases quality of life by increasing the educated population and reducing poverty.

The study is important because it builds upon existing literature while also filling existing gaps. There are numerous studies that demonstrate the relationship between educational attainment and income (HCM Strategists, 2013; Perna & Finney, 2014; Southern Regional Education Board, 2015). Education is a valuable tool in American society for social mobility, and without education, many first-generation students struggle to improve their station. But FGCS success is more difficult than simply enrolling first-generation students. First-generation students are often unsuccessful in college. They lack the social and cultural capital of their continuing-generation peers to succeed in the unique setting of college campuses (Engle et al., 2006; Tym et al., 2004). They are further discouraged to seek higher education due to the high

cost, as many of them are also low-income students (Terenzini et al., 2001). Yet, many studies showed that FGCS are encouraged to seek higher education because their families, despite lacking higher education themselves, support them (Dias & Sá, 2015; Tate et al., 2015).

In addition to education and social mobility, the study is related to the body of research on student success in college. Studies show that precollege experiences affect college students' success (Kuh et al., 2007). Although a great deal of college success is dependent upon academic ability, many studies find that there are non-cognitive predictors related to student success (Pritchard & Wilson, 2003; Tracey & Sedlacek, 1985; Sparkman et al., 2012). Although these studies are relevant and interesting, they often highlight the qualities that first-generation students lack; the characteristics most correlated with success are typically characteristics absent in the first-generation student profile.

Today, student success is often measured in campus engagement. This is largely based on NSSE data and DEEP project data (Kuh, 2003; Kuh et al., 2010). These studies highlight that student engagement is also positively correlated with student success. However, many first-generation students feel excluded on campus and/or are required to work which limits their availability to participate in campus activities.

The literature on first-generation college students shows that they are more likely to be low-income and more likely to be racial minorities (Choy, 2001; Warburton et al., 2001). This increases barriers FGCS face and research rarely includes an analysis of first-generation students as a sole identity; first-generation students are often studied in the combination with also being low-income and/or a racial minority (Aguiana & Maria, 2015; Engle & Tinto, 2008; Lightweis, 2014; Pyne & Means, 2013; Trevino & DeFreitas, 2014; Wilkins, 2014). While these studies contribute to our understanding, we need to understand better how first-generation students

experience college alone. Therefore, it is important to focus on addressing the needs of first-generation students separately.

Studies show that first-generation students often struggle in college because they are academically unprepared (Atherton, 2014). They have lower test scores, GPAs, and lower academic aspirations (Ishitani, 2003; Pike & Kuh, 2005). However, their persistence and attrition is not limited to their academic abilities. Most FGCS persist at slower rates because they are often balancing academic responsibilities with work responsibilities, a symptom of also being low-income (Kuh et al, 2007). Further, FGCS are more likely to drop out of college (Ishitani, 2006). This can be for various reasons (e.g., academic struggles, financial burdens, struggling to fit in, or a lack of support).

As an underrepresented group in college communities, FGCS struggled to relate to their continuing-generation peers, leading them to feel ostracized. As FGCS mature and change throughout college, they also feel isolated and distant from their home communities (Jehangir et al., 2015). It seems that pursuing their goals leads to a lonely existence. Campus can seem even more lonely and isolated when students lack support networks. First-generation students lack the support of continuing-generation students. This is in part because they see themselves as the sole contributor to their academic success (Pike & Kuh, 2005; Yee, 2015). Their independence and sense of self-reliance is in some ways their hubris, as it prevents them from seeking available support networks and further inhibits their success (Yee, 2015).

First-generation student success is especially influential in states with both low education attainment and low income, like Arkansas. Therefore, the study examined first-generation students on-track to graduate in four years from Arkansas' first land grant institution, the University of Arkansas. The study's cohort was not unique; it shared similar qualities to the

students in entering classes both two years previous and two years following their enrollment (see Table 1). Although the University of Arkansas serves a state with low education attainment, there are few existing support systems on its campus specifically targeted at improving FGCS success. It is unclear how many students participate in these programs.

The information for the study was collected using both quantitative and qualitative methods. Before collecting any data, I obtained IRB approval to ensure ethical measures in the data collection and analysis. In accordance with the study's methodology, explanatory sequential design, I collected the quantitative data first. I received the cohort's quantitative data through a request to the University's Office of Institutional Research. The quantitative data were primarily demographic information that the University collects during the admissions process.

In addition to requesting demographic information, I also requested contact information for the cohort. The cohort included all first-time, full-time degree seeking students admitted to the University of Arkansas in fall 2012. The target population included students who were also within the cohort, but were also first-generation students, on-track to graduate in four years (completed at least 105 credit hours by spring 2016), and whose current degree program was in the College of Arts and Sciences. The contact information allowed me to invite members of the target population to participate in focus groups. The focus groups allowed participants to address questions encouraged to elicit rich responses on their experiences in a comfortable group setting. There were five focus groups and one telephone interview.

After the focus groups (and telephone interview) were conducted, I transcribed the audio and video recordings of each group. Then, I analyzed each transcript to find codes or common themes. These codes were then sorted by which research question they best addressed and concluded the data collection and analysis.

Results

Research Question 1: What was the profile of first-generation students on-track to graduate in four years?

The answer to the question, a demographic profile of successful first-generation students, was developed. The data for this question were collected through information obtained from the Office of Institutional Research at the University of Arkansas. Much of the data were collected during the admissions process, so many of these factors were affected by students' pre-college experiences. Of the 4543 students who were admitted to the University in the fall of 2012, 1199 were first-generation. Of the 1199 first-generation students, 413 were currently in the College of Arts and Sciences. Five of these students were removed from analysis because they lacked ACT score data, leaving 408 first-generation students in the College of Arts and Sciences. Of the 408 students, 217 were on-track to graduate with over 105 credit hours accumulated; there were 191 students not on-track.

Descriptive statistics determined that the average first-generation college student on-track to graduate in four years at the University of Arkansas was a state resident, female, White, 18 years old at enrollment, earned a 25.71 ACT score, took at least one AP exam, and initially declared a major within the College of Arts and Sciences. The profile of first-generation students on-track to graduate in four years is displayed in Table 3. This is similar to the University population as most students are state residents, White, and also in the College of Arts and Sciences. However, first-generation students on-track to graduate in four years are more likely to be female than the University's population.

Table 3

Profile of First-Generation Students On-Track to Graduate in Four-Years from the College of Arts and Sciences

	Total	Percentage
	217	100%
Current Legal Residence		
Resident	156	71.9
Non-Resident	54	24.9
Foreign (International)	2	0.9
Unknown	5	2.3
Gender		
Female	142	65.4
Male	75	34.6
Ethnicity/Race		
Black	24	11.1
American Indian/Alaska Native	4	1.8
Asian	9	4.1
White	144	66.4
Hispanic and Any Other Race	22	10.1
Non-Resident Alien	4	1.8
Two or More Races	10	4.6
Mean ACT Score	25.71	
Mean Number of AP Tests Taken	1.032	
Age at Enrollment		
≤17	12	5.5
18	199	91.7
19	6	2.8
Initial College of Enrollment		
Arts & Sciences	162	74.7
Other	55	25.3

Research Question 2: To what extent was there a relationship between the following factors and being on-track to graduate in first-generation students: ACT score, ethnicity, gender, the number of AP tests taken, age at enrollment, in-state residency, and initial college of enrollment?

This question addressed whether demographic factors have a relationship to success for first-generation college students and if so, to what extent. As mentioned in Research Question 1, data were only available for 408 first-generation students in the College of Arts and Sciences who were admitted in the Fall 2012 semester (five were omitted due to missing information). From the 408 students, 217 were on track to graduate. Table 4 displays the results from Pearson's chi-square test of independence that analyzed factors' relationship to being on-track to graduate. The test's results were considered statistically significant when the p value was less than the predetermined alpha level ($\alpha=0.05$). These values are the probability that if the null hypothesis were true, the same results could be produced by chance (Creswell, 2012). The only factors with a p value greater than the predetermined alpha level were ethnicity and changing the initial college of enrollment. This meant that the test found that these two factors are not statistically significant to being on-track to graduate in four years; the other factors (ACT score, gender, number of AP tests taken, age, and in-state residency) were found to be significant to being on-track to graduate for first-generation college students.

Table 4

Results of Pearson's Chi-Square Test of Independence to Being On-Track to Graduate

Variable	χ^2	df	p value
ACT Score	35.24	9	<0.0001
Ethnicity	2.61	6	0.8524
Gender	4.67	1	0.0306
Number of AP Tests Taken	35.52	9	0.0247
Age	25.91	4	<0.0001
In-State Residency	4.46	1	0.0346
Changing Initial College of Enrollment	3.44	1	0.0633

Note. All tests were conducted using $\alpha=0.05$

Research Question 3: What factors did first-generation students on-track to graduate in four years perceive as barriers to their success?

This question identified the barriers that first-generation students perceived to their success. Qualitative data were used to answer Research Questions 3, 4, and 5. For a profile of the focus group participants, see Table 5. The focus groups revealed four major themes. First, they found it difficult to adapt to college life. Second, they struggled to afford college, third, they found it difficult to connect with their family and friends from home and share their college experiences with them, and fourth, they felt academically unprepared for college.

Table 5

Profile of Focus Group Participants

	Total	Percentage
	18	100%
Current Legal Residence		
Resident	15	83.3
Non-Resident	2	11.1
Foreign (International)	1	5.5
Gender		
Female	14	77.7
Male	4	22.2
Ethnicity/Race		
Black	6	33.3
White	9	50.0
Hispanic and Any Other Race	1	5.5
Non-Resident Alien	1	5.5
Two or More Races	1	5.5
Mean ACT Score	25.72	
Mean Number of AP Tests Taken	1.16	
Age at Enrollment		
≤17	2	11.1
18	16	88.8
Initial College of Enrollment		
Arts & Sciences	14	77.7
Other	4	22.2

Note. Percentage totals are approximate due to small sample size and rounding.

There were a few unexpected incidents that affected the qualitative data collection. In the original proposal of the study, I sought to analyze the quantitative and qualitative factors of Pell Grant recipients who were on-track to graduate in four years at a research institution. The study received IRB approval (see Appendix E). However, when I approached OIR about receiving the approved information, they stated that despite having IRB approval, I would not be granted

access to students' Pell Grant status as such information was federally protected. Therefore, I was forced to modify my study.

It is possible that modifying my study limited focus group participation. As I was required to adjust the study itself, I also had to request approval for modifications from the IRB. There was an unusual delay for approval which limited the time remaining in the semester to conduct the research. This delay might have affected attendance for the focus groups as they were pushed later into the semester and likely conflicted with finals study schedules and term papers.

The first focus group session had two participants which, at certain points during the interview, felt too small. The groups for this research project ranged in size from two to five participants. Overall, 18 students participated in the interviews (17 in focus groups and one participant via phone interview). Several factors likely affected participation rates. As mentioned before, a possible factor was timing, as the sessions fell toward the last few weeks of the semester, so participants were balancing preparing for final examinations and writing term papers and felt that their performance in the classroom was more important than contributing to research. Another factor that affected participation was non-attendance. At least five additional members of the target population responded that they would attend the focus groups but did not show up, which also affected the group sizes. For example, three participants confirmed for one session, but only two attended. When faced with the decision to either eliminate the group entirely or to continue with the two participants in attendance, I chose to continue and conduct the group interview because I feared that rescheduling might risk losing the attending participants' contributions to the data as well.

Another unexpected incident in the data was when I contacted members of the target population; two students responded that they were not first-generation students. One student stated, “Sorry I’m not a 1st gen. [sic] college student.” It is unclear if this student misunderstood the definition of first-generation student. Another student responded that his father had graduated from the University, so he was not first-generation. As stated earlier, students were identified as members of the target population through information collected during the admissions process. The specific question that identified students as FGCS reads, “Do either of your parents or guardians have a bachelor’s degree?” (University of Arkansas, 2016). I made the decision to keep these two students’ data in the quantitative analysis as the accuracy of responses limits all quantitative data collected at admissions. However, all focus group participants demonstrated a clear understanding of what first-generation college students were and self-identified as such.

The most predominant barrier that first-generation college students perceived to their success was adapting to college life. Many felt that they had misinterpreted what college would be like and the most difficult tasks were outside of the classroom. For example, one student commented, “I think I was prepared academically, like I could do the academic part of it, but maybe more socially I wasn’t prepared.” Most experienced culture shock in their first year as a college student. Without any context or guidance how to navigate the daily aspects of college life, many felt overwhelmed and lost; they were unaware of how to seek support when they struggled. For example, even one month away from his graduation date, one student commented that he did not know that faculty members could serve as mentors. He exhibited regret and said that he would have tried to form better relationships with professors had he known that such was possible. One participant’s comments captured how first-generation students struggled to adjust to college. She felt that she was not properly supported as a first-generation student and that

orientation services neglected to acknowledge the specific needs of first-generation students. She said,

The actual material was never the problem. It was—they told me on orientation that I was going to have to juggle three things: social life, sleep, and school work. But they forgot about work, they forgot about like if I want to date someone because if you don't give somebody a significant amount of time, they're going to move on. They're that could, you know there goes your chance. So I think the biggest thing for me was juggling more things than anyone ever told me that I would have to juggle, and so especially just working and not having a vehicle, because I know a lot of students when they come, especially like first-generation college students coming to college for the first time you know, they're not, they probably don't have a car, probably don't have a lot of money, so um you know figuring out bus schedules, figuring out how to get from work to class or from work to home, how to how to go to summer school and work in summer and have a ride home because they the busses stop running after 5 in the summer time, so you got to walk if you're still working after 5 so [laughs] there's a lot more things than they than they tell you.

For many FGCS, this was their first time away from home. The distance and separation from what was familiar made them feel sad and homesick, prompting mild depression and anxiety. One student tried to seek campus resources to address her mental health issues, but said that it appeared that the institution lacked adequate staffing for counseling and psychological services, so she was left to cope with her anxiety on her own.

In addition to adapting to college, first-generation students' success was threatened by finances. Many FGCS are also low-income, and they struggled to afford college. Unlike their continuing-generation peers, they had to handle the burden of college expenses themselves. For majority of FGCS, this meant that they had to work throughout college. Most worked multiple part-time jobs or a full-time positions while also enrolled as a full-time student. First-generation students worked as many as 60 hours throughout the week to be able to support the high cost of tuition. This regularly caused them to trade sleep for studying/completing assignments; therefore, they were often tired and underperforming due to lack of adequate rest. A participant remarked that she worked 40 hours a week in addition to being in school full-time and it was difficult to

balance her responsibilities. When I asked how many hours she worked a week she answered and explained,

Yeah, 40 hours a week. And it sounds, I mean it's still a job, and it's like work, but um I take care of a guy with cerebral palsy at night, so I work 7 PM to 7 AM, which has its pros and cons. Um, I don't sleep very much, you know. Since freshman year, I just don't sleep. Um I work Sunday through Thursday and I get weekends so that's good, um but yeah. So, like anything extra, like sorority, like clothing, like food, like all that, I had to provide on my own, so the 40 hours was like necessary for me to like get through college too, you know? It's been good and bad. I really enjoy my job, it's rewarding too, so that's helpful. But yeah, I've had to work 40 hours a week!

Sometimes, sacrifices were more tangible, like not being able to afford course textbooks, lack of transportation to work when you cannot afford necessary car repairs, or paying rent on time. One student expressed the difficulty of affording school without the luxury of being able to rely on her family for financial support, saying

Yeah, I feel like the home life thing is something a lot of people forget about first-gen. [sic] college students is our parents either didn't go to college or didn't finish college, so most of them don't have great jobs, don't have a lot of money. My parents have five, five kids, yeah, and neither of them have a college degree. My dad's self-employed, my mom finally got a decent paying job, but she still has five kids and three of us are college-aged and they can't really support any of us. So yeah, there are grants and there are scholarships and stuff like that, but it doesn't cover everything. It doesn't cover when your transmission goes out in your car and now you can't get to work, and now you lose your job, and now can't pay for food and stuff like that. Um, so yeah it was rough.

The third barrier first-generation students perceived to their success was the inability for their parents and home communities to empathize with their college experiences. Many FGCS called home to seek support when they were faced with a difficult course load or a final that they were especially nervous about. They shared their anxieties with their family members, looking for wisdom and guidance about how to handle the situation. Yet, many felt that their family's support was limited by their lack of college experience; as their parents had not graduated from college themselves, they could not give meaningful advice. Their parents offered general encouragement, things like, "You can do it!" and "Work hard!" One participant stated that, "they

think that no matter what it's manageable to do everything because it's just what I've always done, but I feel like they don't always understand just how hard it is because they haven't personally been through it." First-generation students felt distanced by their parents' inability to understand their stress and provide meaningful advice.

This distance spread between their hometown friends and communities. Many students came from communities with low education attainment. After their time in college, they felt that they were leaving their community behind and could not connect with them. One participant defined this feeling as "survivor's guilt," and many agreed that their success was bittersweet because it caused them to feel distant from their communities. Some were even criticized for their success. A student described the disconnect and guilt, when she stated

I kind of felt like I was leaving my community behind you know and I was the one that made it out and when I go back, I feel like I can't quite connect with them like I used to, and so I felt like um, I don't know, maybe I just left them like I kind of abandoned them and I think that's a natural feeling, but at the same time you have to realize that you can go back and help so much more if you do get an education and go above and beyond what everyone else is doing.

The lack of support made them feel alone and isolated from the people that they wanted to be the closest with.

The fourth barrier facing first-generation students was a perceived lack of academic preparation. The first-generation students were often among the highest-performing students at their high schools. They were shocked to find out that their high school failed to prepare them for the academic rigor of college. Most felt that the academic load of high school was easy and manageable, so many did not have to study or put forth much effort. When faced with difficult course material in college, FGCS did not know how to succeed in the classroom. Furthermore, they struggled to succeed in large classes (as many as 300+ students in a classroom) and felt that

they did not receive sufficient academic support. An FGCS rated his perceived lack of preparation as poor, explaining

On a scale from 1 to 10, 10 being the most, I was probably a 2. [laughs] And that's, that's probably stretching it cause really, I mean, I come from a really small town where the whole goal is just to get you to pass high school, so I mean we didn't do shit. [laughs] I'm not even going to lie, education was like on the bottom list of priorities. Didn't do any college planning, didn't really have any like uh concurrent classes or anything like that, you just kind of went to your high school classes and showed up. You didn't really have to study, you didn't—as long as you were there, you pretty much passed with at least a D. So I mean by the time that you get here, you're kind of like, “Aw, I actually have to study and do work, and put effort into it. OK [sighs].” Whole new scenario.

Overall, first-generation students perceived four barriers to their success: adapting to college life, financial burdens, relating to their families/home communities, and academic preparation.

Research Question 4: What factors did first-generation students on-track to graduate in four years perceive as impetuses to their success?

First-generation students on-track to graduate in four years identified impetuses to their success. There were five perceived catalysts to their success: desire for a better life, limited funding, support from family and friends, faculty mentors, and enjoying their major field of study. As stated earlier, qualitative data collected from focus group interviews answered this question.

The greatest impetus to first-generation student success was the desire for a better life. Successful first-generation students held strong convictions that a college degree would provide numerous opportunities for a better life. These convictions were solidified watching their parents struggle throughout their childhood, limited by their lack of a college degree. Their parents often stressed the value of education, commenting, “If you don't do this, you're going to end up like me.” They watched their parents spend years, “scraping by, working minimum wage,” and so

they felt that obtaining a bachelor's degree would free them from a similar future. Many FGCS sought graduate degrees in their pursuit of a better life, so completing their bachelor's degree was merely a stepping stone to graduate/professional school. They felt that the sooner they completed their bachelor's degree, the sooner they could continue to bigger, better achievements. Ultimately, first-generation college students were encouraged to graduate college in four years because they saw their bachelor's degree as a means to an end, like graduate school or a profitable career. Several students expressed that their goals were motivated by their parents struggles, such as the FGCS who expressed that her goal of going to law school required a bachelor's degree and she felt that she would not have to struggle like her father did:

I wouldn't be able to go to law school if I didn't have a college degree and like that's what I want to do, so I wouldn't have been able to do what I want do... watching my dad like struggle to compete for jobs I like I don't want to be in that position especially now that it's like his day and age it wasn't as common for people to have um degrees, but now I feel like so many people are getting them that it's almost like a necessity for a lot of jobs.

The second catalyst for first-generation student success was limited funding. Students felt that the sooner they were out of school, the sooner they could stop paying for it. They were very aware of the amount of loans they had taken out for school and were averse to any unnecessary debt. One student stated that he "wanted to start making money instead of, you know, borrowing it." Scholarship term limits (typically four years) further contributed to their sense of urgency. Without the support of scholarships, many FGCS could not afford tuition; therefore, they were required to complete their degrees within that time frame.

The third impetus FGCS perceived to their success was that they were surrounded by supportive family and friends. Their encouragement made them feel as though they could succeed. Although first-generation college students' parents could not offer meaningful advice for college success, many had extended family members who had a bachelor's degree. They

found that the shared college experience drew them closer to other family members with college degrees, like aunts/uncles and cousins. Several FGCS also had siblings who they could openly discuss their college experiences with. Outside of their family, first-generation college students were encouraged to succeed by their friends and roommates. For example, they felt that with their friends, they created a supportive environment that encouraged student success. One student reflected on how her roommates contributed to her success, acknowledging:

Yeah, I think my roommates kind of fostered my motivation in school because we would like be in bed, or at least like in our rooms with the lights off at 9 PM and everyone would be up making breakfast getting ready for school at 7 AM, and so it was just like, and everyone's studying all of the time, and so just being like in an atmosphere where everyone understands we're just trying to you know get to the end, um it helps.

By surrounding themselves with other goal-oriented college students, they felt supported by others who shared successful behaviors like studying, spending evenings at the library, and encouraging class attendance.

In addition to support from their family and friends, many first-generation students were encouraged to succeed because of a faculty mentor. Faculty mentors offered support in and out of the classroom. At their most basic level, they were someone to discuss class issues with and ask for academic support. But these relationships also evolved to very close, personal relationships that many first-generation students felt were necessary to their success, acting like a surrogate parent throughout their college career. One student explained a special bond she developed with a faculty member and how it made her feel. She explained,

Um, I had a faculty member that um, I kind of bonded with in my first couple of weeks at school... She was able to help me, you know, with school and also she was the kind of person who would check in and say, you know, "How are you doing?" or if I like had to call in sick to work, she would be like, "Do you need me to bring you soup?" So, it was kind of like having a family member, almost, like in the community that I could like rely on.

Faculty members cared for first-generation students when they were sick, invited them to holiday celebrations when they could not travel home, and helped them find a stylist who specialized in African American haircare. These relationships went above and beyond the typical faculty-student relationship that most university students experience. It gave many FGCS someone to speak with on campus who could offer meaningful advice on how to succeed; it showed them that someone on campus cared about their success. These interactions might even be quick conversations after class as one student described,

Um, my relationship with professors and then my advisors, so I've had the same advisor since freshman year, and I've built a friendship with her. Um, and so having her always there kind of, "Hey I heard about this opportunity, it fits you!" Like um just having that motivation and then having professors that if there was a day where that they could tell something was wrong in class that they knew me well enough to stop me after class and, "Hey what's going on?" And making sure that I knew people were noticing me.

Although these questions were short and these relationships not formalized, they made FGCS feel noticed and significant.

Finally, first-generation college students perceived that being interested in an academic major was important for success. They found that they were more successful in courses that interested them and that they also did not mind their workload. Even if it required switching majors, it was important for them to enjoy what they studied. A FGCS explained that switching his major contributed to his persistence, saying

...when I switched my major from kinesiology to psychology, that was a big part of me like wanting to stay in school, wanting to continue with it because psychology is a field that like I love to study and learn about, so I try to master it so I can know the information like—so I can retain the information after college...

First-generation college students were encouraged to succeed because they felt that obtaining a bachelor's degree was crucial to future goals (careers and graduate degrees).

Additionally, they were encouraged to finish within four-years because of limited funding. They

were also encouraged to succeed because they had the support of their family and friends. They often shared in successful habits with their friends and roommates like going to the library to study together. In addition to their friends and family, FGCS were supported by faculty mentors. Their close relationships with faculty members provided a close relationship with someone on campus who supported them in ways that mimicked kinship (e.g., caring for them when they were sick and inviting them to their home for meals and holidays). Lastly, first-generation students were encouraged to succeed when they enjoyed the course material.

Research Question 5: What did first-generation students on-track to graduate in four years identify as strategies for success?

First-generation students on-track to graduate in four years from a university have developed several strategies for success. The most common strategy for their success was active involvement in their degree plan. Secondly, they sacrificed “unnecessary” activities to keep school as their priority, and third, they regularly attended class. Together, these strategies helped FGCS stay on-track to graduate in four years.

Active involvement in the advising plan helped many first-generation students be successful. First-generation students did not wait until their advisor suggested courses for their degree plan. They took the initiative to find the courses necessary for their degree (available in the course catalog) and planned what courses they would take each semester and what adjustments to make based on availability. This meant that they attended their advising appointments simply for confirmation that their developed schedule was feasible for their degree plan. For example, many arrived at their advising appointments with a plan that they created.

One student described this strategy, agreeing with another student and saying,

Yeah, I agree with that a lot to be active in the advising process don't just let them like tell you, “You should take this,” or just like but be very like active like I had the form

that told me all the classes I need to graduate that was like folded in the in the front of my planner like for like three years. So like, I knew, like “OK, well, OK if I can’t get in this semester, I’ll get in it the next semester.”

They often needed minimal support from their advisors. In addition to carefully selecting courses each semester, they took courses in the summer semester and intersession terms. This helped them to use typical break periods to gain course credit. Some first-generation students enrolled in additional courses each semester, taking as many as 18 or 21 credit hours (12 is considered full-time). Involvement in the advising process was crucial to first-generation student success.

The second strategy for first-generation student success was sacrificing other aspects of their life to keep school as their main priority. For most first-generation students, they sacrificed sleep. Sometimes they would stay awake all night to study and complete assignments because other time outside of class was spent at their jobs. Another common sacrifice was social time with friends. Again, first-generation students typically worked more than one job. This left little time to develop meaningful relationships. For example, one student said, “There’s been weeks where I’ve had friends like text me, ‘Are you still alive?’ Because literally all I’ve done is work and study. Um and so yeah. Social life definitely took a hit, and sleep.” Another student also commented that the only way they were successful was because he “just didn’t have fun, that’s all. I worked a lot, and I did school a lot, and then I slept because there was schoolwork to do in all of that free time. I was a boring person.” However, some first-generation students tried to combine aspects of their life, like making friends in class and using study groups to develop relationships, to increase success and efficiency. Time that was not dedicated to class or work was typically spent studying and sleeping when possible.

The third strategy for success was attending class. First-generation students recognized that success in the classroom was largely due to a strong attendance record. They seldom missed

class. Even in classes where attendance was not a part of their grade, they felt that it was important to be there to gain as much information as possible and to review material that would later be included on class exams. A FGCS elaborated, on how attendance was related to her success:

So attendance was definitely important and it definitely helped me be successful as a student because like I said, you might have got a hint on a question to a test, or uh a whole test question might have been talked about and you missed that day, so yeah. Attendance has definitely helped me be successful.

First-generation students utilized multiple strategies for success. They took great initiative with their academic careers and were actively involved in selecting their courses to efficiently satisfy degree requirements. Additionally, they made sacrifices to accomplish schoolwork. This primarily meant a lack of sleep and lack of a social life. Finally, FGCS regularly attended class. They felt that their attendance was related to their success, so they rarely missed class.

Chapter Summary

This chapter began with a summary of the study, which took place at the University of Arkansas. This setting is unique because it is the flagship institution in a state with a high education deficit. The study utilized previous research on the value of education and social mobility as well as student success. The study specifically focused on first-generation students and existing research was implemented in the study's design. An explanatory sequential mixed methodology was used to best understand what contributes to first-generation student success.

Five questions were developed to analyze and explore the concept of first-generation student success. The first question identified the profile of first-generation students on-track to graduate in four years. This question utilized demographic data and was analyzed using both Excel and R² software. Table 3 presented the findings. Research Question 2 analyzed the

relationship between multiple factors and being on-track to graduate in first-generation students. The data also primarily used demographic data but was analyzed using Pearson's chi-square test of independence and found that ethnicity and initial college of enrollment were not related to being on-track to graduate; age, gender, ACT score, number of AP tests taken, and in-state residency were related to being on-track to graduate. Table 4 presents the answers to Research Question 2. Research Questions 1 and 2 concluded the study's quantitative analysis.

Qualitative data was collected using focus groups. Research Question 3 identified perceived barriers to first-generation students' success. These barriers included difficulty adapting to college life, financial burdens, a shift in relationships between family and friends back home, and feeling academically unprepared. On the other hand, Research Question 4 identified the perceived impetuses to first-generation student success. They included the desire for a better life, limited funding for college, support from family and friends, faculty mentors, and enjoying their major field of study. Finally, Research Question 5 addressed what strategies for success first-generation students identified. The three strategies were active involvement in the advising/degree-planning process, making sacrifices to prioritize schoolwork, and regularly attending class.

CHAPTER 5

CONCLUSIONS, RECOMMENDATIONS, AND DISCUSSION

Introduction to the Chapter

This chapter provides a summary of the study's findings on factors affecting first-generation college student success. It begins with a summary of the study, providing a brief overview of information detailed in the previous chapters, and continues with conclusions developed from the study's findings. Following the conclusions are recommendations for future research and recommendations for practice. The following section provides a discussion of the study that relates the findings and conclusions to existing literature on first-generation college student success. The chapter concludes with a summary.

Summary of the Study

The study focused on understanding the factors affecting first-generation college student success at the University of Arkansas, the state's flagship institution. Arkansas has one of the country's lowest percentages of degree attainment (Southern Regional Education Board, 2015), and thus, there is a need to reduce education attainment gaps and improve first-generation college student success. There was little existing research on what contributed to FGCS' success, as this student population has much to gain from earning a bachelor's degree. Education is linked to increased income, quality of life, and social mobility (HCM Strategists, 2013; Perna & Finney, 2014; Ross & Van Willigen, 1997; Southern Regional Education Board, 2015). Research on student success has shown that precollege experiences and demographic factors affect student success (Kuh et al., 2007). As much of their precollege experiences are dictated by their identity as a first-generation student, the study had potential for significant implications on the population and its relationship with student success.

First-generation college students have unique precollege experiences, resulting in specific barriers. The literature review identified that first-generation students were more likely to be low-income and racial minorities (Choy, 2001; Warburton et al., 2001). They faced barriers associated with these other identities, like financial difficulties and isolation that can negatively impact their success. Additionally, FGCS were generally unprepared for college (Atherton, 2014). Those who persisted found that they felt isolated and lonely; they struggled to relate to their continuing-generation peers. They also felt isolated from their family and friends back home (Jehangir et al., 2015). While the existing literature addressed the barriers facing first-generation college students, it failed to identify what helped them to succeed.

Five questions were developed and answered to better understand first-generation college student success. The study used an explanatory sequential mixed methodology to answer the questions. Research Questions 1-2 used quantitative data to provide answers. The data were obtained through the University's Office of Institutional Research and primarily consisted of demographic information collected during the application and admission process. Research Questions 3-5 used qualitative data obtained from focus groups. The focus group participants were members of the target population (first-generation college students on-track to graduate in four years from the College of Arts and Sciences). Research Question 1 analyzed the profile of successful first-generation college students. Successful first-generation students at the University of Arkansas were mostly residents (in-state), female, and White. They had an average ACT score of at least 25, and on average completed at least one AP exam. Most enrolled in the College of Arts and Sciences initially; they did not switch colleges.

Research Question 2 analyzed the relationship between being on-track to graduate and the following factors for first-generation students: ACT score, ethnicity, gender, the number of

AP tests taken, age, in-state residency, and initial college of enrollment. A chi-square analysis of independence found that all factors except ethnicity and the initial college of enrollment were significant to first-generation college students being on-track to graduate.

The third research question examined the perceived barriers facing first-generation college students. The largest barrier facing first-generation college students on-track to graduate in four years was adapting to college. They were surprised by how difficult it was to adjust to the newfound responsibility of college. Additionally, limited finances prevented their success. Most FGCS had to work several jobs to financially afford college. The time spent working prevented these students from dedicating time outside of class to their studies. The third barrier FGCS perceived to their success was isolation from their family and friends from home. As first-generation college students were the first to earn a college degree, their families lacked the context to understand the new experiences that FGCS underwent in college. Finally, they perceived that a lack of academic preparation impeded their success. They felt unprepared to handle the difficult material, especially compared to their continuing-generation peers.

Research Question 4 identified perceived impetuses to first-generation college student success. First-generation college students on-track to graduate in four years perceived five impetuses to their success. First, they desired a better life; their ability to see a bachelor's degree as a necessary component of their future goals motivated them to persist and succeed. Second, they identified limited funding as an impetus to complete school quickly. They reasoned that fewer years spent in school (spending money) meant the sooner that they could start making money through increased job opportunities from earning their bachelor's degree. Third, they identified support from their family and friends as encouragement to succeed. This included advice from extended family members (aunts/uncles and cousins) who had bachelor's degrees

and support from their college friends, like roommates. Fourth, supportive faculty members contributed to FGCS success. They provided everything from academic enrichment, mentorship, and caring for FGCS as a family member might. Fifth, interest in their major encouraged first-generation college students to succeed; they were motivated to succeed because they enjoyed their major field of study.

Research Question 5, the study's final question, identified the strategies successful first-generation college students used. First-generation college students identified three strategies for success. First, they were active in planning their course of study, and took the initiative to plan each semester to maximize efficiency. Second, they remained focused on their goals and made sacrifices to meet them. This often meant that they sacrificed sleep and social activities. And third, they attended class regularly.

Conclusions

The following conclusions relating to first-generation college students on-track to graduate in four years from a research university were drawn from the study:

1. The profile of successful first-generation students at the University of Arkansas indicated that successful first-generation students were White, female, and from the state of Arkansas. They earned at least a 25 on the ACT and took at least one AP exam. They did not switch colleges. Most were 18 when they first enrolled. There is little that appears underrepresented about this group of students aside from their identity as a FGCS; they are not typically racial minorities or out of state students or non-traditional students. Therefore, it would be difficult for administrators and others to identify students who face barriers as first-generation college students without a system that easily identifies these students.

2. The statistical tests demonstrated that pre-college factors are significantly related to FGCS success (age, residency, gender, ACT score and number of AP tests). This suggested that first-generation students from the state of Arkansas are more successful. Given that there is no significance to ethnicity and being on track, first-generation status should be given consideration as an identity in diversity efforts.
3. The barriers that first-generation college students faced were largely because of their identity as a first-generation college student. They struggled to adjust to college because as the first in their family to attend college, they lacked context to understand what college life was like. Therefore, there needs to be a special effort to address the needs of first-generation college students because factors associated with the identity of being first-generation potentially hindered their success.
4. Many of the reasons that contributed to first-generation college students' success were based on motivation and opportunity. The largest impetus for FGCS success was motivation. This is difficult for institutions, faculty, and staff to create; it is an internal desire specific to individuals. Students were also inspired to complete their degrees in four years because of limited funding. Funding should be sufficient so that students can remain involved in campus activities without working more than one part-time position. The other factor that they identified as beneficial (family support) was outside the scope of the institution. Although institutions could provide materials and programs to describe the college experience to FGCS' families, they could not force them to support them. Many FGCS felt that a faculty mentor contributed to their success. Finding a faculty mentor who is both a good fit for the student and willing to take the time to support individuals was dependent upon opportunities available for students. Many of the

students shared that their relationship with their faculty members developed naturally and to their surprise; they did not expect to form a bond with some of their professors. Had these relationships been forced, they might not have yielded the positive impact that they had. Finally, students shared that they were driven to succeed because they were interested in their major. Often college students do not know what interests them and enjoy trying other disciplines. However, sampling different courses can prolong the time to complete a degree. An interest in a major area of study required students to know themselves early in their degree program and the opportunity to study what appealed to them.

5. First-generation college students used initiative and planning in three strategies to be successful. This required a high level of internal motivation and initiative that is difficult to foster and reproduce. Although students made sacrifices like social activities and sleep to be successful, this was detrimental to their health and valuable social interactions. Many commented that they did not make as many friends as they had hoped to. The strategies to be a successful FGCS required students to forgo many of the benefits and meaningful relationships that contribute to student success. They saw that these sacrifices were temporary and had long-term benefits that helped their degree and goals, yet they expressed remorse that they did not reap the benefits of a typical college experience. The final strategy FGCS identified for success was regular class attendance. They felt that class attendance was crucial for success because it helped them to prepare for exams and course assignments. This also demonstrated internal motivation, which suggested that FGCS success is largely dependent upon the individual.

Recommendations for Further Research

The study sought to address multiple facets contributing to first-generation student success, but there are still many areas that need to be further examined. The first recommendation is that future researchers run predictive statistical tests on the factors analyzed for significance to being on-track to graduate (ACT score, ethnicity, gender, the number of AP tests taken, age, in-state residency, and changing initial college of enrollment). It would benefit administrators to understand how these factors predict success for first-generation college students to better understand the relationship between these factors and being successful.

Another recommendation is that future researchers broaden the target population to include first-generation college students in other colleges at the University and different types of colleges (e.g., private institutions and community colleges). The study focused specifically on first-generation college students on-track to graduate in four years from the College of Arts and Sciences. Increasing the target population to include students from other colleges would better help researchers to understand whether there is a relationship between the field of study and being on-track. Similarly, studying whether first-generation students switched majors would help researchers better understand this relationship and not solely focusing on if they switched colleges.

Although the study defined success as being on-track to graduate within four years, one can very well make the argument that success can be defined by graduating within six years (the same time frame that institutions measure graduation rates). However, this might be difficult to execute as students leave campus each year for graduation, so the study would need to be conducted over a few years to capture as many members of the target population as possible.

FGCS were motivated to succeed because they felt that a bachelor's degree was necessary for achieving other goals. It would be beneficial to study if their goals and plans were actualized. Most of the students in the study planned to attend graduate school, but the study did not follow up with them. Additionally, several students felt that their bachelor's degree would increase job opportunities and it would be interesting to study the extent to how their beliefs came into fruition.

Future researchers might broaden the study to examine the impact of mentoring first-generation students on faculty members. Several first-generation students felt that faculty members encouraged them succeed. It would be interesting to analyze how this relationship impacted faculty members.

Family support contributed to first-generation college student success. Further research is needed to analyze how FGCS success impacted families, as it is possible that their success inspired younger siblings to attend college. It is also possible that their success might have made them feel further isolated from their families and home communities, as they identified this as a perceived barrier.

A vital aspect of this research for long-term implications would be to analyze how increased education attainment of first-generation college students has changed economic development throughout Arkansas. It would help researchers to learn if reducing educational attainment gaps increased the state's economic advancement. Other considerations within this vein are whether the successful students remained within the state or if they left. If successful first-generation students are not staying in Arkansas after graduation, then it sheds light on other issues like brain drain. Researchers should consider the long-term effects of FGCS success in Arkansas.

Recommendations for Practice

A primary goal of the study was to yield recommendations for increasing first-generation college student success in Arkansas. The study's results gave suggestions for future practice for both higher education leaders and first-generation college students.

Recommendations for Higher Education Institution Administrators and Faculty

Throughout the data collection process, several members of the target population who self-identified in their admissions application that their parents did not have a bachelor's degree later stated that they were not first-generation. Future applications should be revised to clarify and verify that first-generation students are accurately identified.

A barrier to first-generation college student success was that they felt that attending college created distance between them and their families because they did not understand their experiences. Their family members lacked the context to understand the pressures of college. Institutions could better integrate the families of first-generation students in activities so that they can understand their experiences. This could be as simple as using more inclusive language in new student literature and the orientation process to inform parents and families of FGCS what the next few years will be like for their student. Another suggestion might be as formalized as a program that invites FGCS' parents to campus for a "Day in the Life of a College Student" program where family members can shadow their students on campus to get a first-hand glimpse of the pressures and responsibilities of being a college student. The possible programs are numerous, but the most important part is that administrators should make a concerted effort to help the parents and families of FGCS understand how their student feels throughout college.

First-generation students felt that faculty mentorship contributed to their success. Institutions should consider establishing faculty mentorship programs for first-generation

students to contribute to their success. There might be a greater number of successful first-generation students if faculty mentorship was formalized and more widespread. This could include better advocacy on the barriers facing FGCS and what helps them to succeed. Faculty members might be motivated to better serve first-generation students if they could connect their success to larger efforts like reducing education attainment gaps and increasing the state's economic advancement.

In addition to creating faculty mentorship programs, institutions should consider creating specific programs for first-generation students. Several students felt isolated from their continuing-generation peers, so they might find comfort and community in specific groups that are designed for first-generation students. Specific programming for first-generation students would provide a supportive network for others who are going through similar experiences. Such programs might also provide scholarships for first-generation students, reducing financial barriers so that they can increase time outside of the classroom devoted to student success rather than working to make ends meet. The University implemented a campus-wide program in 2013 called University Perspectives. This program created a course by the same name and was a required, one-hour credit for freshmen to “emphasize the transition to the university and university-level work” (University Perspectives, 2013). The U of A should consider devoting voluntary sections of the course specific to first-generation students to address their needs in transitioning to college life without the context that their continuing-generation peers have. First-generation students have demonstrated success in first-year courses (Vaughan et al., 2014), so implementing a specific section of University Perspectives for FGCS might help them better adjust to college life.

Financial aid for first-generation students is a strong recommendation for practice because FGCS felt that limited income was a major source of stress and hurt their success. They had to work to multiple jobs to afford school in addition to receiving scholarships and loans; the financial aid they received was not enough. Working throughout college provides work experience, but no participant stated that they worked for the experience. First-generation college students worked because it was the only way that they could afford school. Higher education leaders should consider establishing financial aid specifically for first-generation college students as many of them are low-income.

Recommendations for First-Generation College Students

First-generation students on-track to graduate identified an initiative in course planning as a strategy for success. This suggests that future first-generation college students should take an active role in the advising/planning process. FGCS arrived at semester advising meetings with several suggestions for course plans that would satisfy their degree requirements. First-generation college students should not wait for advisors to choose their courses for them but rather plan each semester (and often several semesters at a time) themselves to maximize efficiency. Additionally, it is recommended that they continue coursework in summer and intersession semesters to gain credits as quickly as possible.

First-generation students should strongly consider whether they are willing to make sacrifices to be successful. Making small sacrifices, like social functions contributed to success. These sacrifices can be short-term and balanced. They should not come at the expense where a student does not take breaks, resulting in burnout. Although FGCS identified that sacrificing sleep helped them to succeed, it is not recommended that students lose sleep to succeed as such can have adverse effects on their health.

In addition to planning and making sacrifices, it is recommended that first-generation students attend class as often as possible. Regular class attendance was identified as a strategy for success as it helped students to gain important course material not covered in textbooks and establish a rapport with their professor and classmates. Finally, it is recommended that first-generation college students choose a major that interests them. FGCS are more encouraged to succeed when they enjoy what they study. An interest in course content will also motivate FGCS to attend class.

Discussion

The study's theoretical framework argued that college students have a fixed amount of time outside of the classroom and how they spend this time determines their involvement and success (Astin, 1984). Considering that first-generation students are often low-income, the study found that first-generation students were required to work at least 20 hours (sometimes up to 60 hours) per week to afford college. The time devoted to their jobs negatively impacted their success because it detracted from opportunities for involvement with other students. However, first-generation students were involved in their education through other ways. First-generation students were actively engaged throughout the planning process and sacrificed social activities and campus engagement so that they could devote time to academic success.

The study expanded on a previous dissertation that analyzed students with a lower chance of succeeding who graduated in four years from a research university (Korth, 2003). The study found that students were successful because of

an expectation to graduate in four years, a motivation to graduate, a value for studying, a recognition of the importance of class attendance, a personal support system, campus involvement, a campus support system, and a wise use of campus resource (Korth, 2003, p. 1).

Similarly, first-generation college students also were motivated to succeed through graduation, recognizing the importance of class attendance, and both personal and campus support systems. FGCS did not identify an expectation to graduate, campus involvement, or the use of campus resources as contributors to their success. Korth's (2003) target population identified the following barriers: crisis issues, joyous family occasions, financial problems, lack of awareness of resources, absentee administrators, problems with staff, difficulties with coursework, difficulties with advisors, problems with teachers, and dissatisfaction with university housing. FGCS also identified financial problems and difficulties with coursework as barriers to staying on-track to graduate in four years, but they did not share any other similar barriers to Korth's (2003) population. Although Korth's (2003) research overlapped with the study as both analyzed populations who are predicted to have a low success rate, they are not entirely comparable. The study's target population focused only on first-generation college students. The earlier study included any student who earned lower than a 30 ACT score and below a 3.75 high school GPA (Korth, 2003). On average, first-generation college students on-track to graduate in four years had an ACT score of 25.71, whereas the previous study's target population had an average ACT score of 22.5 (Korth, 2003). Although the earlier study might have included more continuing-generation students, the percentage of first-generation college students in Korth's (2003) target population is unknown.

Studies demonstrated that education is linked to social mobility and increased quality of life (Engberg & Allen, 2011; Kaufman, 2003; Ross & Van Willigen, 1997). First-generation college students on-track to graduate in four years were motivated because they believed that obtaining a college degree would benefit their future. Most perceived benefits were related to

increased income. Their understanding, albeit limited, that a college degree would benefit their future inspired them to persist and succeed.

First-generation college students' precollege experiences and backgrounds affected their success. Although the study cannot be compared to predictive models (see Kuh et al., 2007; Sparkman et al., 2012), it demonstrated that FGCS perceived that academic preparation, socioeconomic status, and family support affected their success. FGCS felt that they were unprepared for school and struggled to afford the high expenses associated with college tuition and fees. They felt that their family's emotional support increased their success, but they also felt separated from their family's as they found it difficult for their families to understand their experiences.

Unlike NSSE results suggested (NSSE, 2016a), successful FGCS are not very engaged on campus. FGCS work so much that they are unable to actively participate in on-campus activities outside of class attendance. Many felt that they failed to make friends and establish the social relationships they imagined they might make in college. Further research is needed to examine NSSE's findings in first-generation college students.

The study suggested that the University could do more to better meet the needs of FGCS. Tinto (2012) found that institutional support has a positive effect on retention. The two most significant barriers to FGCS success were difficulty transitioning to college life and limited financial resources. The University could take measures to address these two barriers through specific orientation services for FGCS and increased financial aid.

The study's findings that first-generation college students felt that they lacked academic preparation is related to previous studies findings (Atherton, 2014; Elliott, 2014). FGCS felt that they were unprepared for the academic rigor of the coursework and were surprised that it was so

difficult. However, on average the study's target population had an ACT score over 25, which is five points higher than the minimum ACT score required for admission to the University of Arkansas. The literature suggested that this was because they lacked the cultural and social capital to understand that precollege predictors for success were correlated to realized success. FGCS in the study did not accurately understand the realities of college life, which might have led them to feel unprepared for college academics.

Consistent with previous studies (see Choy, 2001; Sirin, 2005), FGCS on-track to graduate found that income was a barrier to their success. The target population in the study, as in previous research (Lee & Mueller, 2014; Pratt et al., 2017; Wilbur & Roscigno, 2016), was required to devote much of their time outside of class to work because they lacked financial support from their parents. Their heavy work schedules often detracted from the time that they might study or engage in social activities; however, FGCS were required to work to afford college, a burden that most shouldered on their own.

The inability to participate in social activities because of work made being a first-generation college student a lonely existence. The study supported similar findings from previous studies that show that FGCS feel alone and isolated (Jehangir et al., 2015). FGCS felt that they could no longer relate to their families, as their college experiences had changed them, yet they were not similar enough to their continuing-generation peers to feel that they fit in with them.

Although there was a lower percentage of White students in the first-generation population than the total population in Fall 2012 (see Tables 1 and 2), few students mentioned their status a racial minority. One participant, a Hispanic woman, mentioned that she felt isolated

because of a negative experience. She wanted to speak with a faculty or staff member about this but realized that she did not know any Hispanic faculty or staff on campus. She stated,

I think like for me too like um I like realized that there weren't a lot of like faculty that I could talk to about like like my cultural problems you know. I'm Mexican, my parents are immigrants from Mexico, they were born there, and I was born here in the states, and you know I speak good English, but I remember this like one incident I was trying to get an internship like with some affiliated school program and um I like asked or I walked in and I introduced myself and the person who was interviewing me asked how good my English was before I could even like say anything you know. And I was like, "Oh, hmmm that's weird." I was trying to be nice, like "Oh you tell me!" [laughs] I mean I think it's pretty good, and I remember like wanting to talk to someone about that, you know? Because I ended up not getting the interview, which I mean and I think that's probably because I just wasn't you know qualified for it or something, or there were other, better candidates, but you know I was like. Gosh, I kind of... like you wonder you know if that had anything to do with it, so I think that was a barrier for me because I was kind of in my head about that for a while, and I realized looking around that my friends don't look like me, my faculty doesn't look like me, like there's very few students that look like me, so that was like difficult and kind of like sparked a passion for me. So, it was a barrier, but I like have overcome it and it's kind of led me in a direction where I want to go with my life, you know? But that was kind of hard I think for me, at least.

This was the only incident where a participant indicated that race might affect success.

Although that student struggled to find a faculty member to share in her experiences as a Hispanic woman, FGCS found that faculty members were supportive and available for most other needs. This finding contrasted with previous studies that argued that first-generation students failed to establish relationships with faculty members (Longwell-Grice & Longwell-Grice, 2007; Yee, 2015). Several participants indicated that faculty support played a vital role in their success and that they did not feel intimidated to establish these relationships.

In sum, the study's findings were consistent with most findings on first-generation college students. The data suggested that FGCS faced specific barriers, primarily sufficient preparation for college and financial support. Additionally, FGCS were required to spend most of their time outside of class working to make ends meet, which limited time that they might spend on extracurricular activities and socializing. Therefore, they felt isolated and alone as they

struggled to establish meaningful friendships. Although the study found that the successful first-generation student population had a greater percentage of racial minorities than the cohort, racial influence was not a common barrier. The study affirmed several of the perceived impetuses to success and strategies for success identified in earlier studies. Motivation to graduate and a desire for increased quality of life inspired FGCS to persist.

Chapter Summary

The chapter began with a summary of the study, briefly describing the study's purpose, previous research, and the study's findings, and continued with a list of conclusions from the study. The conclusions elaborated on its findings. The study found that first-generation students faced multiple barriers to their success like unpreparedness, financial barriers, and empathy from their family. However, they were driven by a motivation for a better life, limited financial aid, support from their family and friends, and faculty mentors. FGCS were actively involved in developing the course of study. They carefully planned their schedules to maximize both academic success and work availability. Because of work obligations, they had limited opportunities to establish meaningful friendships throughout college. They were often lonely and isolated. In addition to sacrificing time for friendships, they often sacrificed sleep to complete academic work. These sacrifices were extreme at times, but they were willing to make short-term sacrifices for what they perceived to be long-term gains.

The study's findings were considered for both future research and practice. Future researchers should analyze how well demographic factors predict FGCS student success. Further research is needed to see how first-generation success improves the state of Arkansas and its impact on economic development. There are suggestions for future practice for both higher education leaders and first-generation college students. Higher education leaders should develop

more programs and financial aid incentives developed to increase FGCS success. They should especially consider programs that better prepare first-generation college students for the transition to college. The study suggested that FGCS be actively involved in developing their course plan with their advisor. They should enroll in summer and intersession terms to maximize credit hours in as few years as possible. It is recommended that FGCS regularly attend classes and choose a major that interests them.

The study contributed to the existing body of literature by demonstrating the unique barriers facing first-generation college students. The perceived struggles facing FGCS at the University were similar to those in other studies in that they were often low-income students and struggled in college initially because they were not prepared. Like other students who were not predicted to succeed, they were motivated by a desire to graduate.

First-generation college student success is crucial to Arkansas' economic advancement. Arkansas has both high poverty and high educational attainment gaps. Reducing educational attainment gaps would, in turn, reduce poverty. Although these effects will take years to develop, understanding what helps first-generation college students to be successful and break the cycle of a lack of education improves the likelihood that first-generation students will succeed. The study's findings developed recommendations to improve first-generation college student success in hopes that this also improves existing conditions in Arkansas.

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Appendix A

Institutional Review Board Approval Letter



Office of Research Compliance
Institutional Review Board

April 8, 2016

MEMORANDUM

TO: Mary Margaret Hui
James Hammons

FROM: Ro Windwalker
IRB Coordinator

RE: PROJECT MODIFICATION

IRB Protocol #: 16-01-492

Protocol Title: *Factors Contributing to the Success of First-Generation Students On-Track to Graduate in Four Years at a Research University*

Review Type: ☐ EXEMPT ☒ EXPEDITED ☐ FULL IRB

Approved Project Period: Start Date: 04/08/2016 Expiration Date: 02/10/2017

Your request to modify the referenced protocol has been approved by the IRB. **This protocol is currently approved for 50 total participants.** If you wish to make any further modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

Please note that this approval does not extend the Approved Project Period. Should you wish to extend your project beyond the current expiration date, you must submit a request for continuation using the UAF IRB form "Continuing Review for IRB Approved Projects." The request should be sent to the IRB Coordinator, 109 MLKG Building.

For protocols requiring FULL IRB review, please submit your request at least one month prior to the current expiration date. (High-risk protocols may require even more time for approval.) For protocols requiring an EXPEDITED or EXEMPT review, submit your request at least two weeks prior to the current expiration date. Failure to obtain approval for a continuation *on or prior to* the currently approved expiration date will result in termination of the protocol and you will be required to submit a new protocol to the IRB before continuing the project. Data collected past the protocol expiration date may need to be eliminated from the dataset should you wish to publish. Only data collected under a currently approved protocol can be certified by the IRB for any purpose.

If you have questions or need any assistance from the IRB, please contact me at 109 MLKG Building, 5-2208, or irb@uark.edu.

Appendix B

Emails to Target Population

Email 1

Subject: You're Invited: Focus Group on Student Success

Dear (student),

Congratulations on your progress made towards degree completion at the University of Arkansas! It is becoming a rare occurrence to complete a college degree within four years and you are on track to be in a select group of successful students.

Your success is valuable and we would like to learn more about the factors that have contributed to your steady progress. You have been selected to be a part of a focus group interview to help us learn more about how the University can better serve students.

The focus group will help us to learn about your educational experience, what factors have contributed to your success, challenges you've faced, and how you overcame these challenges as a student at the University of Arkansas. The interviews will be conducted on campus and will include free food! The group interview will take no longer than 90 minutes.

Your participation is part of a study to identify factors that contribute to first-generation students' success, who are on track to graduate within four years at a research university. I am conducting the study as part of dissertation research to complete my doctorate in higher education administration at the University of Arkansas. This research is funded by the University of Arkansas Office of Graduation and Retention.

I will be contacting you in a few days via email to set up focus group interview times.

Congratulations, again, on your upcoming graduation and best of luck this semester!

Mary Margaret Hui
IRB #16-01-492

Email 2

Subject: FREE food for your thoughts!

Dear (student),

I am following up on the previous email, inviting you to participate in a focus group interview. You are part of a select group of students who are both first-generation college students and on track to graduate within four years and I am interested in learning more about what has contributed to your educational success.

You are invited to join us for a focus group interview (free food provided) sponsored by the Office of Graduation and Retention. Each session will have about 8 other senior students like yourself who are also first-generation college students and on track to graduate within four years. I invite you to join us for an interview in a comfortable setting to discuss your experiences at the University.

Please reply via email with your selection of a date and time from the sessions below:

- Tuesday, April 19th: 6:00-7:30 PM
- Thursday, April 21st: 12:30-2:00 PM
- Monday, April 25th: 7:00-8:30 PM
- Tuesday, April 26th: 12:30-2:00 PM
- Wednesday, April 27th: 6:00-7:30
- Thursday, April 28th: 12:30-2:00 PM

All focus group interviews will take place in a private room on campus and will include free food. If any of the session times/dates do not work with your schedule, please contact me and we can work together to try to set up another session that will work with your schedule.

Above all, we want you to share, “What has contributed to your success at the University of Arkansas?”

Thank you and I look forward to hearing from you!

Mary Margaret Hui
IRB #16-01-492

Email 3

Subject: What made you a successful first-generation college student? We want to know!

Dear (student),

You are among a very select group—less than 15%—of University students who are both first-generation college students (parents do not hold a bachelor’s degree) and are on track to graduate in four years! This is a HUGE accomplishment, and I would love the opportunity to ask you, “how did you do it?”

You are invited to participate in a group discussion with other first-generation seniors like yourself to talk about your experiences. Your participation will contribute to research that will help other students like you to follow in your successful footsteps.

We know that your time is valuable, so we want to thank you for your participation and celebrate your success by providing a meal at the session.

Please respond to let us know if you can attend one of the following focus groups below (held on campus).

- Monday, April 25th: 7:00-8:30 PM
- Tuesday, April 26th: 12:30-2:00 PM

- Wednesday, April 27th: 6:00-7:30
- Thursday, April 28th: 12:30-2:00 PM

Can't make it to one of the above groups? Let us know, and we can set up a time that would work better for your schedule.

Once again, congratulations on your progress and achievements and we look forward to hearing from you!

Mary Margaret Hui
IRB #16-01-492

Email 4

Subject: You're a successful first-generation student! What's your secret?

Dear (student),

You are among a select group of successful students who are both first-generation and on-track to graduate within 4 years—this is a HUGE accomplishment! We want to know what are your “secrets to success?” We are conducting group interviews with other students like yourself who are both first-generation students and on-track to graduate within 4 years. Your participation will help students like you to follow in your successful footsteps!

We still have space in the interview times below, and as a thank you for your participation and celebration of your success, **dinner/lunch will be provided** at the interviews. Your time and your opinions are valuable, so **please let us know if you can attend one of the focus groups below (new times added!):**

- Monday, April 25th: 7:00-8:30 PM
- Wednesday, April 27th: 6:00-7:30 PM
- Thursday, April 28th: 12:30-2:00 PM
- Friday, April 29th 3:30-5:00 PM
- Saturday, April 30th 1:30-3:00 PM
- Wednesday, May 11th 7:30-9:00 PM
- Thursday, May 12th 4:30-6:00 PM

Can't make it to one of the available times but still want to share your experiences? Please contact us and we can set up another interview session that works better with your schedule!

Mary Margaret Hui
IRB #16-01-492

Email 5

Subject: What is your secret to being a successful first-generation college student? We'd love to hear it!

Dear (student),

You are among an elite group of students (less than 15%!) who are both first-generation students and on track to graduate from the University within 4 years—this is a HUGE accomplishment! We want to know, “how did you do it?” We are conducting group interviews to learn your “secrets to success” so that we can help more students like yourself to follow in your footsteps.

We still have space available for the focus groups this week. As a thank you for your participation and celebration of your success, **dinner will be provided** at the interviews. Your time and your opinions are valuable, so **please let us know if you can attend one of the focus groups below:**

- Wednesday, May 11th 7:30-9:00 PM
- Thursday, May 12th 4:30-6:00 PM

Can’t make it to one of the available times but still want to share your experiences? Please contact us and we can set up another interview session that works better with your schedule!

Thank you and I look forward to hearing back from you!

Mary Margaret Hui
IRB #16-01-492

Email 6

Subject: Free Pizza if You’ll Tell Me Your Secret How You Made It Through the U of A!

Dear (student),

You are among an elite group of students (less than 15%) who are both first-generation students and on track to graduate from the University within 4 years—this is a HUGE accomplishment! I want to know, “how did you do it?” I am conducting group interviews to learn your “secrets to success” so that I can help more students like yourself to follow in your footsteps.

There is still have space available for the focus groups. As a thank you for your participation and celebration of your success, **pizza will be provided** at the interviews. Your time and your opinions are valuable, so **please let me know if you can attend one of the focus groups below:**

- Monday, May 16th 7:00-8:30 PM
- Wednesday, May 18th 7:00-8:30 PM

Can’t make it to one of the available times but still want to share your experiences? Please contact me and I can set up another interview session that works better with your schedule!

Thank you and I look forward to hearing back from you!

Mary Margaret Hui
IRB #16-01-492

Thank you Email

Subject: Thank you for your participation!

Thank you for participating in the focus group interviews! Your participation is helping us to learn more about how to better serve students and replicate your success.

Did you feel that there was something you wanted to share later? If you want to share or elaborate on your responses in the interview, please let us know. We will be collecting data until early-May and your contributions enrich our information and understanding of student success. We value what you have to say and invite you to share additional ideas!

Once again, thank you for your participation.

Mary Margaret Hui
IRB #16-01-492

Appendix C

Focus Group Protocol and Guided Questions

Focus Group Guide and Script

- I, the researcher, and assistant moderator (if utilized) will arrive early and check the room (lighting, seating, ventilation, set up and test recording equipment, arrange refreshments). The ideal setting is a table with chairs arranged around it and the recording device in the center.
- Registration and welcome: ask participants to arrive 5 minutes early and I will greet them as they enter. “Welcome to the focus group interview on student success. I appreciate you taking the time to participate. Please complete the sign-in sheet, which serves as your meal ticket to the food provided.”
- Explain and ask participants to sign and return the Informed Consent Form: “Please take out the informed consent form that you picked up as you entered the room today. This form explains the study’s purpose, what is required to participate, possible risks and benefits, how I’ll protect the confidentiality of your identity, and who to contact if you have any questions. If you’re willing to participate in the discussion, you need to sign and date the form and submit it back to me. You are being asked to participate in a 60-90 minute recorded small group interview to gain an understanding of your success as a college student. Your perspective helps us to replicate your success for other students. As this is a group interview, there is some risk to your confidentiality. Therefore, I encourage you to only share what you feel comfortable discussing and I ask each participant to respect the privacy of the group. To minimize this risk, I invite you to only share what feels comfortable. I will also remind you that you have the right to withdraw from the group at any time and that you can abstain from answering any of the questions. Are there any questions regarding the consent form? I have emailed you my contact information should you have any questions or concerns about the study.”

Ground Rules:

- “Since this might be your first time participating in a focus group interview, I want to take a moment to establish some ground rules to ensure a good experience for everyone. I will share a few ground rules that I have found to be helpful and then will ask you to share others that you feel are important:
 - Speak loud enough for the recorder to hear you
 - Only one person should talk at a time and avoid interrupting others
 - Avoid negative reactions to others’ comments or responses
 - Allow a chance for everyone to speak; don’t dominate the conversation
 - Refrain from sharing information that may identify yourself or others (for example, names of others, even those within the room whom you may already know)
 - Any other ground rules you would like to add?

- Since it can be easy to break a ground rule, I will hold up two finger (like a peace sign) as a friendly reminder to adhere to the ground rules.”
- “The interview will take about 60-90 minutes.”

Focus Group Guided Questions:

If you were giving a presentation to incoming freshmen on how to graduate in four years at the University, what would you tell them?

1. I want you to think back on your first year here on campus. How well prepared did you feel for college?
2. Whom did you rely on for guidance when you faced a barrier? Did you have a friend, relative faculty member, or staff member you could speak openly with?
3. Do you feel that your degree was manageable to complete within four years and why?
4. Did you face any barriers (language, need for tutoring, learning disabilities) that threatened your ability to complete courses?
5. How well do you feel that you coped with the stress of college?
6. What drives you to succeed in college (family, personal success, specific goal)?
7. How would you describe your college attendance record? Do you think that this is linked to your success?
8. How important to you is performance and doing well rather than completing the minimum?
9. How do you think having a college degree will impact your future?
10. Today students often take longer than 4 years to complete a bachelor’s degree. What pressures impacted your decision to complete college within 4 years?
11. What factors contributed to your going to college and selecting the University of Arkansas?
12. What relationships helped you to succeed in and out of the classroom?
13. What role did advising play in your course enrollment? Did you know what courses you would take every semester?
14. How did you fund your education (scholarships, grants, family, work)? How did this help you to succeed?
15. Did you work throughout college?
 - a. Did you work on campus or off campus?
 - b. How many hours per week did you work?
 - c. How did you balance work and academics?
16. Did you face any personal problems throughout college?
 - a. Did these problems affect your success in school?
 - b. How did you handle them?
17. Does your home environment (roommates, family, partners, etc.) support your success in the classroom?
18. Do you have access to materials that you need for class at home (computer, reliable internet connection, books, etc.)?
19. If you work, does that ever interfere with your school work?

20. Now I want to switch gears to your department and your choice of a major and the specific courses you took as a part of your major. Your major is one of several. What contributed to your choice?
 - a. Did you switch majors?
 - b. Did you ever consider switching?
 - c. Why did you stay?
21. How often did you make friends or have classes with other friends? Did this help you to feel more comfortable in class?
22. Did you feel comfortable meeting with your faculty members outside of class?
23. How would you describe the faculty and staff within your department? Do students speak of these people in a positive light?
 - a. Did you have a mentor within your department? If so, how did this relationship develop and what is it like?

Focus Group Facilitator Materials:

I will bring the following items to every focus group:

1. Two recorders (audio and video), back up batteries
2. Focus Group Guide and Script
3. Consent Forms
4. Writing utensils for participants
5. Food for participants
6. Sign-in log

I will turn on the tape recorder, state the date, day, time, location, and session.

Assistant moderator (if utilized) will take notes during the discussion, ensure that every participant has an opportunity to speak, monitor time, avoid answering questions, monitor the recording equipment and assist with late arrivals

As the session concludes, I will announce:

- “Our interview has a few minutes remaining. Is there anything else that you would like to add to the discussion before we close?”
- “Thank you again for participating in the interview. Your participation is appreciated.”

Stop the recorder

After the focus group interview:

- Debrief, jot down any valuable nonverbal behavior observed
- Check the recorder to ensure that the discussion was recorded.

Appendix D

Consent Form

Factors Contributing to the Success of First-Generation Students On-Track to Graduate in Four Years at a Research University Consent to Participate in a Research Study

Principal Researcher: Mary Margaret Hui Faculty Advisor: Dr. James Hammons

INVITATION TO PARTICIPATE

You are invited to participate in a research study about successful first-generation college students (students whose parents do not have a bachelor's degree). You are being asked to participate in this study because you are on-track to graduate from the University within four years from the College of Arts and Sciences and you are a first-generation college student.

WHAT YOU SHOULD KNOW ABOUT THE RESEARCH STUDY

Who is the Principal Researcher?

Mary Margaret Hui

Who is the Faculty Advisor?

Dr. James Hammons

What is the purpose of this research study?

The purpose of this study is examine the factors that contribute to student success at a four-year research institution. This research is being sponsored by the Office of Graduation and Retention.

Who will participate in this study?

About 50 University of Arkansas students, ages 18+

What am I being asked to do?

Your participation will require the following:

- Attending one focus group interview session where you will be videotaped and audio recorded for data collection purposes

What are the possible risks or discomforts?

There are no anticipated risks to participating.

What are the possible benefits of this study?

The benefits to participating include enjoying a meal and sharing your "secrets" (what you did to stay on track and graduate in four years with your peers.

How long will the study last?

Each focus group interview session is anticipated to last between 60-90 minutes in length.

IRB #16-01-492

Approved: 04/08/2016

Expires: 02/10/2017

Will I receive compensation for my time and inconvenience if I choose to participate in this study?

Yes! You will receive complimentary food and beverage during the focus group interview sessions.

Will I have to pay for anything?

No, there will be no cost associated with your participation.

What are the options if I do not want to be in the study?

If you do not want to be in this study, you may refuse to participate. Also, you may refuse to participate at any time during the study. Your job, course grades, and University graduation status will not be affected in any way if you refuse to participate.

How will my confidentiality be protected?

All information will be kept confidential to the extent allowed by applicable State and Federal law.

Several measures will be taken to ensure ethical data collection and confidentiality of all participants. All student data, focus group video and audio recordings, and transcripts will be kept confidential to the extent allowed by law. The researcher will assign pseudonyms to each participant and only these pseudonyms will be used in research analysis, reports, the final dissertation, and any future articles or presentations—your name will not be associated with any publishing or reporting of data.

Will I know the results of the study?

At the conclusion of the study you will have the right to request feedback about the results. You may contact the faculty advisor, Dr. Hammons or Principal Researcher, Mary Margaret Hui. You will receive a copy of this form for your files.

What do I do if I have questions about the research study?

You have the right to contact the Principal Researcher or Faculty Advisor as listed below for any concerns that you may have.

Mary Margaret Hui

Dr. James Hammons

IRB #16-01-492
Approved: 04/08/2016
Expires: 02/10/2017

Appendix E

Original IRB Approval



Office of Research Compliance
Institutional Review Board

February 23, 2016

MEMORANDUM

TO: Mary Margaret Hui
James Hammons

FROM: Ro Windwalker
IRB Coordinator

RE: New Protocol Approval

IRB Protocol #: 16-01-492

Protocol Title: *Factors Contributing to the Success of Pell Grant Recipients On-Track to Graduate in Four Years at a Research University*

Review Type: ☐ EXEMPT ☒ EXPEDITED ☐ FULL IRB

Approved Project Period: Start Date: 02/23/2016 Expiration Date: 02/10/2017

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of one year. If you wish to continue the project past the approved project period (see above), you must submit a request, using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. This form is available from the IRB Coordinator or on the Research Compliance website (<https://vpred.uark.edu/units/rscp/index.php>). As a courtesy, you will be sent a reminder two months in advance of that date. However, failure to receive a reminder does not negate your obligation to make the request in sufficient time for review and approval. Federal regulations prohibit retroactive approval of continuation. Failure to receive approval to continue the project prior to the expiration date will result in Termination of the protocol approval. The IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 50 participants. If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior* to implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 109 MLKG Building, 5-2208, or irb@uark.edu.